Government of Saskatchewan

Annual Report 1988-89

Saskatchewan Environment and Public Safety

90-03489/

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Letters of Transmittal

Her Honour
The Honourable Sylvia O. Fedoruk, O.C., S.O.M.
Lieutenant Governor of Saskatchewan
Government House
4607 Dewdney Avenue
Regina, Saskatchewan
S4P 3V7

Your Honour:

It is my pleasure to submit to you the Annual Report of Saskatchewan Environment and Public Safety for the fiscal year ending March 31, 1989.

Respectfully submitted,

Grant Hodgins

The Honourable Grant Hodgins
Minister of Environment and Public Safety

Dear Sir:

It is my pleasure to present to you the 1988-89 Annual Report of Saskatchewan Environment and Public Safety. A comprehensive review of all Department activities is provided in this report.

This has been a year of changes, challenges and achievements with many new and additional demands being placed on the Department. A major focus for the Department has become the goal of achieving sustainable development, which can be defined as development which ensures that the utilization of resources and the environment today does not damage prospects for their use by future generations.

Improving quality of life and maintaining emergency response capabilities and adequate safety standards in Saskatchewan have also remained priorities for the Department.

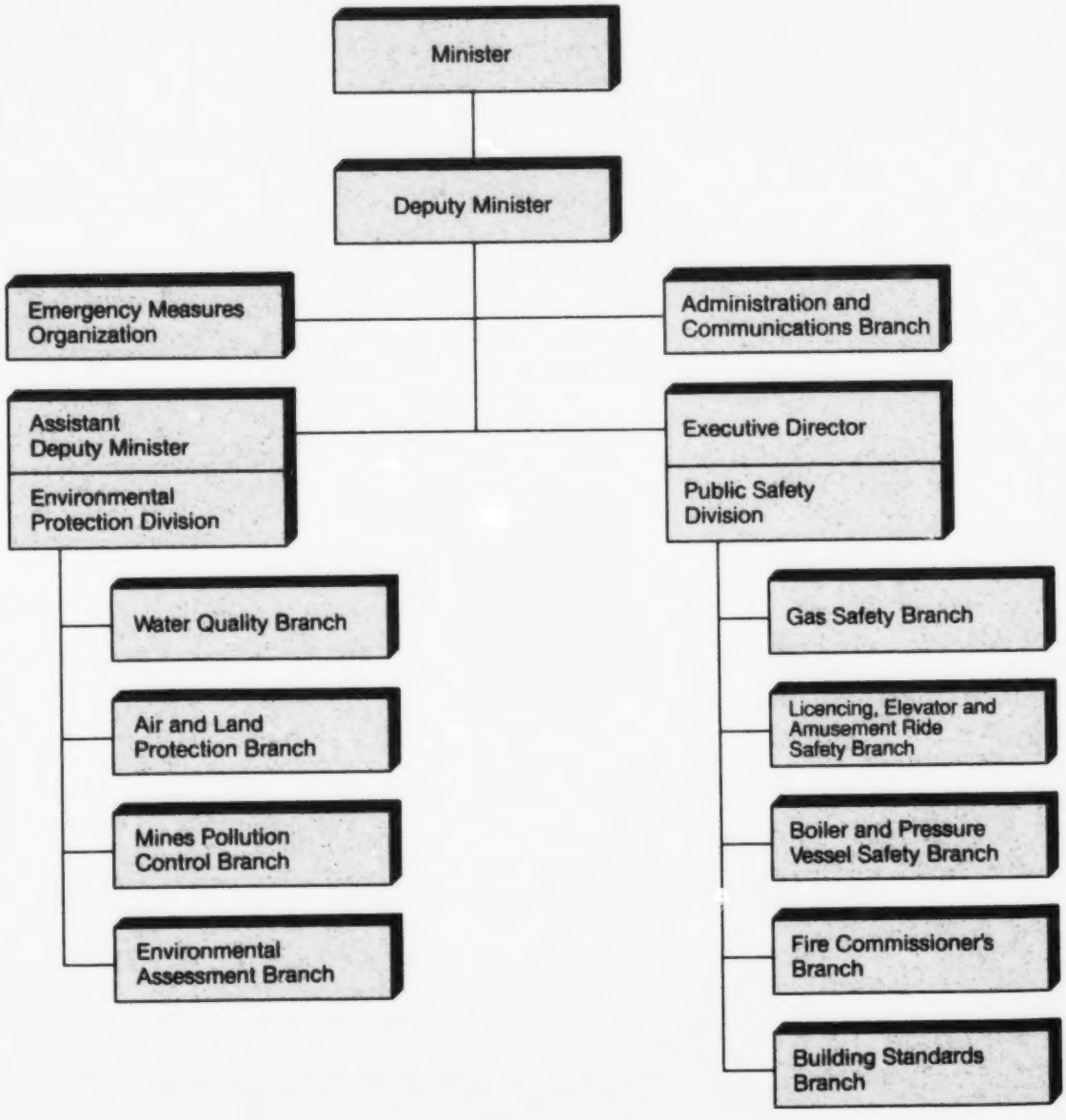
This was indeed a challenging year for Department staff and I would like to commend them for a job well done.

Respectfully submitted,

Peter S. van Es
Deputy Minister

Organization Chart

Saskatchewan Environment and Public Safety



Department Mandate

The mandate of Saskatchewan Environment and Public Safety is threefold:

Environmental Protection

To protect and enhance the environment in a manner that promotes the physical, economic and social well-being of the people of Saskatchewan today and in the future.

Public Safety

- To provide and maintain safety standards for industry and the general public in the fields of boiler and pressure vessel installations; elevator and amusement ride installations; building and accessibility standards; fire safety and licencing of persons engaged in work of gas and electrical installation.

Emergency Measures

- To develop and maintain an effective emergency response capability at the provincial and municipal levels of government to ensure the survival and recovery of our citizens and communities from any peacetime emergency or disaster.

Legislation

The following Acts were administered by Saskatchewan Environment and Public Safety in the 1988-89 fiscal year.

The Environmental Management and Protection Act
The Air Pollution Control Act
The Litter Control Act
The Environmental Assessment Act
The Ecological Reserves Act
The Water Appeal Board Act
The Boiler and Pressure Vessel Act
The Gas Licensing Act
The Electrical Licensing Act
The Passenger and Freight Elevator Act
The Fire Prevention Act, 1980
The Amusement Ride Safety Act
The Uniform Building and Accessibility Standards Act
The Civil Defence Act

Environmental Protection Division

Mission

To protect and enhance the environment in a manner that promotes the physical, economic and social well-being of the people of Saskatchewan today and in the future.

Activities

Environmental protection activities are concentrated in four branches reporting directly to the Assistant Deputy Minister. They are:

- Air and Land Protection
- Water Quality
- Mines Pollution Control, and
- Environmental Assessment

Air and Land Protection Branch

Objectives

- To prevent air pollution from industrial and other sources.
- To preserve and enhance the environment by managing land use activities.
- To ensure that high quality natural, agricultural and recreational lands are not irreversibly allocated or impacted by incompatible uses.

Activities

- Issue Approvals to Operate in accordance with The Air Pollution Control Act for industrial sources, fuel-burning equipment and incinerators.
- Regularly monitor air quality in Regina and Saskatoon. Investigate air quality complaints and encourage industry to reduce emissions of air pollutants to the lowest practical levels.
- Safeguard the physical and living environment in the event of storage or spill of hazardous substances.
- Provide advice on risks to public safety and property in the event of a deliberate or accidental discharge of hazardous substances into the environment.
- Assess degree of contamination of lands as a result of accidental or intentional release of chemicals.
- Encourage waste reduction, recycling, reuse and recovery.
- Regulate environmentally acceptable storage, treatment and disposal of waste to land.
- Identify degradation pathways and potential impacts on the environment as a result of the use of toxic chemicals.
- Promote rehabilitation of polluted or disturbed lands.
- Management of programs to recycle pesticide containers.
- Identify and protect environmentally sensitive or hazardous lands.
- Recommend development of only those lands that are free from hazards such as flooding, erosion, subsidence and poor drainage.

Air Quality Section

Legislation

The Clean Air Act was passed by the Legislature in November, 1987. The new Act will require all significant industrial and other sources of air pollution to obtain a permit to operate. However, an amendment to the Act is required to remove a roadblock to the development of regulations under the Act. This amendment is expected to be dealt with by the Legislature in the next fiscal year. The Clean Air Regulations had been drafted at year end and the Act as well as the Regulations are expected to come into force during the next fiscal year.

Industrial Surveillance Activities

During the fiscal year, 11 new permits to operate under The Air Pollution Control Act were issued and 116 permits were renewed. Figure 1 illustrates the growth in the number of permits issued since 1975. Table 1 provides a breakdown of the industrial classifications of the permits handled during the year.

Figure 1
Industrial Permits Issued 1975-88

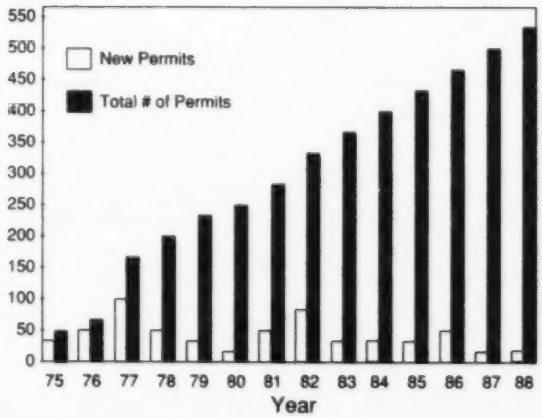


Table 1
Classification of Permits

	New	Renewals	Cancelled
Agricultural Chemical Formulating Plants	-	1	2
Anhydrous Ammonia Storage Facilities (Bulk)	-	3	-
Asphalt Plants	4	33	5
Bulk Blending Fertilizer Facilities	-	5	-
Chlorine Packaging Facilities	-	1	-
Chemical Manufacturing	-	2	-
Crematoriums	-	3	-
Gas & Oil Gathering and Treating Facilities	3	19	3
Grain Elevators	-	23	-
Incinerators	2	5	-
Iron Foundries	-	1	-
Miscellaneous	-	13	1
Oil Refineries	-	1	-
Seed Cleaning & Treating Facilities	2	6	1
Total	**11**	**116**	**12**

Selected major industries are required to monitor emissions and/or ambient air quality near their operations, as a result of conditions attached to their permits to operate. The results of these monitoring efforts are submitted to the Section for review. For the most part, monitoring results are well within provincial standards and requirements.

Where violations occur, the Section works with industry to achieve a lowering of emissions or other resolution of the problem.

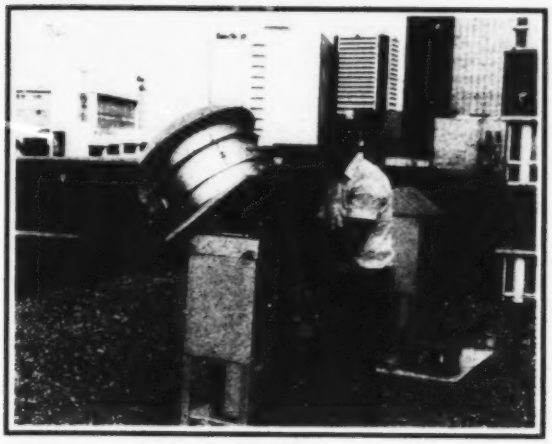
Section personnel conduct numerous formal inspections of industries which are under permit. During these inspections staff members verify that processes and equipment are operating in the intended / expected manner. Any complaints or problems are discussed and areas for improvement or changes are negotiated. In addition to formal inspections, Branch personnel also visit numerous industries and other operations on a random, informal basis. The purpose of these visits is to ensure that appropriate follow-up measures are put in place in those situations where improvements were previously agreed upon.

Urban Air Monitoring

The Section conducts air monitoring in the province to assess present conditions, review long-term trends and evaluate effectiveness of air pollution control equipment. The data collected also enables the Section to evaluate air quality complaints and compliance with air quality standards.

The urban air monitoring network centres around Regina and Saskatoon. Air quality parameters typically measured may include hydrogen sulphide, sulphide dioxide, ozone, carbon monoxide, oxides of nitrogen, inhalable particulate matter and wind. Inhalable particulate matter sampling and analyses are also carried out in other parts of the province. Results of air quality measurements made during 1988-89 were no different from those made in the previous fiscal year. Air quality can be rated as fair to good. The provincial air quality monitoring data for 1988-89 may be made available from the Department upon request.

In addition to the urban air monitoring program, the Section monitored air quality around the Consumers Co-operative Refinery/Upgrader in Regina and near the Saskatchewan Power Corporation plant at Poplar River. A number of industries were also required to carry out ambient air monitoring as a condition of their Permit to Operate.



Urban air monitoring in Regina.

Acid Rain

Saskatchewan Environment and Public Safety is a member of the Western Canada Long Range Transport of Atmospheric Pollutants Technical Committee. The committee plans and co-ordinates acid deposition research and monitoring programs for western Canada. An annual report outlining the acid rain activities in western Canada during 1988 is available from the Department on request.

The Section is participating with the other western provinces to develop sulphate deposition target loadings for sensitive areas in western and northern Canada. This study is anticipated to be completed in the next fiscal year.

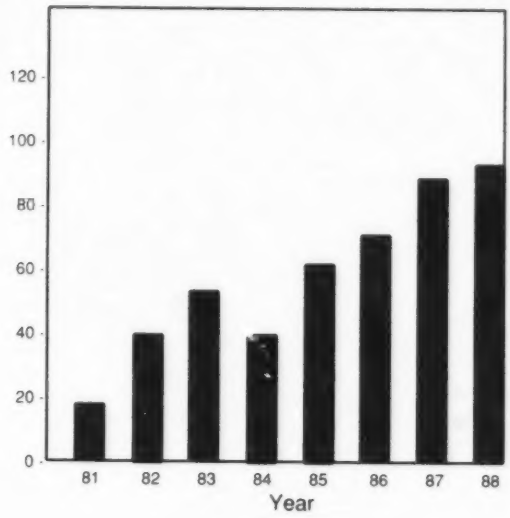
Complaints Investigation

The Section received and investigated 105 air quality complaints during the 1988-89 fiscal year. This represents an increase of approximately 7% from the previous fiscal year.

These complaints were mainly odours, smoke and dust in the ambient air. Operational activities of oil refineries, asphalt plants, grain elevators, steel foundries and other industrial activities were mostly responsible for these complaints. In a number of cases, changes to operating procedures were sufficient to resolve the complaint. In certain cases detailed evaluations were necessary before operational or equipment changes could be implemented. In general, the industry co-operated very well in trying to resolve their complaints.

Figure 2 represents the number of air quality complaints received and investigated by the Section since 1981.

Figure 2
Air Quality Complaints 1981-88



Protection of Ozone Layer

A review of existing and proposed legislation in other provinces and Canada has been completed.

Saskatchewan Environment and Public Safety is represented on the working group that has been recently established under the Federal Provincial Advisory Committee on the Canadian Environmental Protection Act to ensure that ozone layer protection initiatives at the Federal and Provincial levels are complimentary in scope and timing.

The Province of Saskatchewan will ensure actions taken to ban/regulate ozone depleting substances such as chlorofluorocarbons (CFC's) will be consistent with Federal/Provincial initiatives and the development of the Montreal Protocol or substances that deplete the ozone layer.

Waste Management Section

Spill Response and Control

Saskatchewan Environment and Public Safety is responsible for the enforcement of the Environmental Spill Control Regulations which are designed to safeguard the environment in the event of a spill. The regulations require that spills of pollutants be reported immediately to the Department 's Spill Report Centre to ensure proper containment, clean up and disposal of contaminated material.

Spill Report Centre personnel are available 24 hours a day. When a spill is reported, they determine if adequate measures have been taken to clean up the spill and may also provide advice and/or instructions on further work required. The spill team is equipped to make on-site inspections, determine if appropriate actions are being taken and advise on disposal requirements.

During the year, the Spill Report Centre received approximately 1,200 calls. Two hundred and thirty-eight of these calls were to report spills under the Environmental Spill Control Regulations. In addition, the Spill Response Team dealt with numerous complaints and requests for information concerning chemical handling, disposal of chemicals, transportation of dangerous goods and environmental manifests.

One-third of the reported spills required visits to the site to investigate, inspect and supervise remedial activities. Dozens of additional inspections were completed with the assistance of other provincial or municipal officials and emergency response organizations.

Table 2 summarizes the number of spills reported, the product and the total volume spilled.

Table 3 illustrates the cause of the spills correlated with number of occurrences and volumes of product spilled.

Table 2
Spill Statistics by Product, Number of Incidents and Quantity

Product Spilled	Number of Incidents	Quantity
Petroleum Products		
Asphalt	7	32.5 m3
Crude Oil	3	9.7 m3
Diesel	34	127.0 m3
Heating Oil	4	29.9 m3
Gasoline	52	400.5 m3
Transformer Oil (<5 ppm)	1	0.1 m3
Used Oil	3	2.6 m3
Other	16	238.4 m3
Subtotal	**107**	**730.5 m3**
Non-Petroleum Products		
Acid and Base	5	9.4 m3 / 3000 kg
Fertilizer	13	44.3 m3 / 34410 kg
Industrial Chemical	21	46.6 m3 / 243009 kg
Industrial Waste	18	4473.1 m3 / 461 kg
PCB's	41	1.2 m3
Pesticides	6	0.2 m3 / 125 kg
Radioactive	10	386.4 m3
Sewage	10	3332.7 m3
Subtotal	**124**	**8293.8 m3 / 281005 kg**
Total	**238**	**9024.4 m3 / 281005 kg**

Table 3
Spill Statistics by Cause, Number of Incidents and Quantity

Cause	Number of Incidents	Quantity
Transportation - truck railway, etc.	38	239.6 m3 / 238125 kg
Handling	23	216.7 m3 / 10361 kg
Equipment Failure	65	4104.4 m3 / 4391 kg
Above Ground Tanks, Overflows	47	1257.1 m3 / 25100 kg
Below Ground Tank Leaks, Line Leaks	27	130.5 m3
Micellaneous - lightning, vandalism, unknown	38	3076.1 m3 / 3028 kg
Total	**238**	**9024.4 m3 / 281005 kg**

Industrial and Hazardous Wastes

Hazardous wastes of various types are generated by many industries and businesses, government agencies and the general public of Saskatchewan. These wastes require special controls when they are handled, stored, transported, treated and disposed of into the environment.

The Department is responsible for ensuring that these wastes are managed in a proper manner and in this regard it monitors environmental conditions at hazardous waste sites, carries out inspections and assessments of industrial facilities, provides instruction regarding the transportation requirements for hazardous wastes, provides technical advice on waste management problems, and issues Minister's Orders for the operation of industrial facilities, the control of pollutants, and the clean up and reclamation of industrial sites.

The Branch provided advice to generators of hazardous wastes on the available methods of disposal of such wastes. These included the recycling of wastes, treatment of wastes or disposal at an out of province hazardous waste facility. Since the cost of disposal at hazardous waste facilities is very high, strong efforts to recylce or reuse wastes were made whenever feasible.

Progress was made in addressing the PCB issue in Saskatchewan. Inspections were carried out at all major PCB storage sites in the province. The Province made a commitment to consolidate PCBs and initiated the development of a Provincial PCB Storage Facility. This facility began accepting PCB wastes in March, 1989.

An industrial environmental survey was undertaken in Regina and surrounding area to determine the volumes and types of hazardous chemicals used in the workplace and the amount of hazardous wastes generated. Over 160 onsite inspections were conducted. The information obtained consisted of methods of hazardous waste disposal, storage procedures for hazardous chemicals and wastes, possible negative consequences of chemical and waste management practices particularly with regards to the Regina Aquifer System and opportunities to increase recycling activities. From the site inspections it was evident that hazardous waste handling, storage and disposal methods are quite varied from one site to another. The information obtained from this survey will be used to establish a uniform policy for the handling, transporting and disposal of hazardous wastes.

In addition, the province is working jointly with the federal government and other provinces to develop a uniform policy and set standards for the handling, transportation and disposal of hazardous wastes.

Municipal Waste Landfills and Liquid Waste Haulers

The Municipal Refuse Management Regulations which were enacted in 1986 pertain to the establishment and operation of municipal refuse disposal grounds in the province. A regulatory process was developed to ensure the environmentally sound siting, development, operation and monitoring of such facilities. The activities of the Department in this respect are summarized in the following table.

Table 4

Municipal Landfill Activities

Applications Received	10
Authorization to Establish Facilities Issued	9
Permits to Operate Issued	14
Landfill Site Closures	4
Complaints Received	60
Inspections	300
Bylaws Reviewed and Approved	12

The Regulations also require that all persons or companies involved in the business of transporting and disposing of liquid domestic wastes obtain a permit from the Department. A total of 206 permits have been issued.

Transportation of Dangerous Goods

The Transportation of Dangerous Goods Act (TDGA) and Regulations are designed to promote public safety in the transportation and handling of dangerous goods. The Department's role is to register all parties involved in the movement of hazardous waste and to ensure compliance with the legislation in the transport of the waste to treatment or disposal facilities.

Communications is maintained with other provincial jurisdictions regarding interprovincial waste movement. Registration activities are outlined in the following table.

Table 5

Transportation of Dangerous Goods Registrations

	1988-89	1987-88	1986-87	Total
Waste Generators	48	39	41	139
Waste Carriers	27	27	16	78
Waste Receivers	16	6	11	37

Pesticide Container Disposal Program

There are approximately one million pesticide containers sold in the province annually. Surveys conducted by the Saskatchewan Safety Council in 1981 and 1982 showed that a large number of these containers were not disposed of appropriately.

In response to numerous requests from concerned groups, the Pesticide Container Disposal Program was initiated in 1983. Approximately 70% of rural municipalities took advantage of the program the first year with the establishment of 170 sites. In a number of cases, urban and rural municipalities joined forces to provide appropriate and accessible sites.

The number of sites in the province have increased since the first year to a number now totalling 273 sites. During 1988-89 the number of containers collected at the sites totalled 600,000 with 85 barrels of residue recovered for proper disposal.

Well operated pesticide container disposal site (cans and plastics on sides, no cardboard boxes).

Litter Control Act

The Litter Control Act was amended in May, 1988 in order to complete the ground work for the introduction of carbonated soft drinks and beer in non-refillable containers. Part of the amendment created the Environmental Protection Fund. Environmental handling charges and deposits levied on non-refillable containers are retained in this fund.

Sale of carbonated soft drinks and beer in aluminum cans began in May, 1988. At the same time, the Department contracted with the Saskatchewan Association of Rehabilitation Centres (SARC) to collect the cans for recycling through a province-wide depot system. The sale of carbonated soft drinks in plastic bottles and the collection of these bottles for recycling through the SARC depot system began in November, 1988.

By year's end the SARC depot system had grown to 38 depots employing more than 120 handicapped persons. Returns of aluminum cans and plastic bottles through the system were exceeding expectations. The average return rate since introduction for these cans and bottles had reached 45% and 16% respectively by year end.

Land Management Section

Development Proposals

This Section reviews those development proposals having environmental implications, particularly around waterbodies or other environmentally sensitive areas, to ensure that the proposals are not subject, by virtue of locations, to various natural hazards and will not significantly impact on the surroundings, and to ensure that all aspects of good planning practice are considered.

During the fiscal year, 13 shoreland proposals, 17 rural residential proposals, 12 urban residential proposals, 23 commercial/industrial proposals, 32 proposals for municipal purposes, and 4 other proposals for various purposes were reviewed by Section staff. These 101 proposals provided for the creation of 725 parcels intended for various purposes.

These proposals were referred to the Branch by Saskatchewan Urban Affairs, Saskatchewan Rural Development and various communities. After reviewing their environmental suitability and possible impact on other nearby uses, the Branch provided comments and guidelines to the referring organizations.

Chemical Management Section

This Section continues to provide technical information and assistance to the public, industry and other government departments pertaining to the proper storage, use and handling of toxic or hazardous chemicals. Approximately 700 inquiries were handled by Section staff this year. Staff members also served on organizations such as the Canadian Council of Resource and Environment Ministers (CCREM), National Task Force on Leaking Storage Tanks, Biomedical Waste Disposal Steering Committee and the Canadian Association of Pesticide Control Officials (CAPCO).

Hazardous Substances Regulations

The Hazardous Substances Regulations were approved under The Environmental Management and Protection Act on November 15, 1988. Promulgation of the regulations marked the completion of a lengthy process ultimately aimed at protecting the environment by providing greater regulatory control over the storage of hazardous chemicals.

The Hazardous Substances Regulations come into effect on April 1, 1989. An estimated 20,000 storage facilities across the province will be governed by the regulations. The development of a program and infrastructure to administer and enforce the regulations was initiated during 1988-89.

Hazardous Chemical Information

During 1988-89 the Chemical Management Section continued to build a reference library of chemical hazard related information. The Section remains committed to providing the most accurate and recent information to the public, industry and other agencies by updating their references on an ongoing basis.

Pesticide Residue Disposal Project

Beginning in 1987-88 Saskatchewan Environment and Public Safety initiated a joint study with Environment Canada to investigate the use of lined evaporation/degradation pits for the treatment and disposal of pesticide residues. Approximately 5,000 litres of residues generated by the Pesticide Container Disposal Program were circulated through the evaporation/degradation pit over three - five month periods during 1987-88. Preliminary results indicated substantial reductions in volume and pesticide content of the residues undergoing treatment. The study is scheduled to continue until 1991.

Section staff also provided extensive technical assistance in preparing and arranging for the disposal of residues generated by the Pesticide Container Disposal Program.

Water Quality Branch

Objectives

- To protect and enhance Saskatchewan water quality.

Activities

- Establish water quality objectives and guidelines for surface water and groundwater.
- Establish guidelines and standards for water and wastewater works, licence construction and operation, and enforce standards.
- Investigate and evaluate water quality concerns, trends and issues.
- Monitor and inspect water and wastewater works to determine compliance with standards and guidelines.
- Manage and report provincial water quality data.
- Communicate with agencies and the public by providing information and advice on water quality matters.
- Identify and consult on water quality research needs.
- Regulate chemical use for in and near surface waters.
- Co-ordinate a certification and training program and provide technical assistance for the owners and operators of water and wastewater works.
- Work with other governments to monitor and protect transboundary water quality.

Water Quality Management Section

Biocide Regulation

The Branch issued 118 permits for the application of biocides to public surface water primarily for control of algae and other plant growth.

Treatment of the Saskatchewan River system for blackfly larviciding was continued by Saskatchewan Agriculture. River treatments using methoxychlor and various formulations of the biological agent BTH-14 were conducted in accordance with permit approval by Saskatchewan Environment and Public Safety. BTH-14 is a bacterium which is host specific to the larvae of blackflies and mosquitoes.

Surface Water Quality Monitoring

Surface water quality monitoring

Water quality trends in Saskatchewan surface waters were regularly monitored. During the fiscal year approximately 18,000 samples were collected by the Branch or by others on behalf of the Department. About 100,000 analyses were performed. A summary of sampling locations is shown in Table 6.

Table 6
Water Quality Sampling Statistics

	Total Samples	Total Analyses
Surface Water Basins		
Qu'Appelle	107	3,103
North Saskatchewan River	47	1,363
South Saskatchewan River	87	2,523
Saskatchewan River	24	696
Souris River	4	156
Missouri River	6	294
Northern Contract	16	640
Other	35	875
Municipal		
Water - Chemicals	839	11,594
Water - Bacteria	11,621	11,621
Sewage and Receiving Waters	749	17,976
Industrial (Collected by Industry and by the Branch)	3,962	42,258
Special Projects		
CuSO4 Study	86	86
Moose Jaw Mercury Control Project	18	126
Spring Runoff	55	1,375
Complaints	30	750
Plankton	20	20
Quality Control	25	625
Miscellaneous (Including Spills)	25	625
Saskatchewan River	--	--
South Saskatchewan River Basin Project	60	1,500
Discharge Mixing Zones	104	2,600
Total	**18,093**	**99,421**

Data Management

The Branch has three computer systems that are operated through Westbridge Computer Corporation. These systems are ESQUADAT, BIODAT, and WINDAT. The ESQUADAT system is used for handling chemical and bacteriological data for surface water, drinking water and wastewater. The BIODAT system handles biological data including algae information. Information on municipal water, sewage works and on the plant operators is on the WINDAT system. The Branch also has microcomputers to compliment the above mainframe systems. These computer systems organize and sort the information, as well as assist in completing various graphs, calculations and statistics.

During the year, the Branch acquired a groundwater database to manipulate, store, and generate reports concerning the Regina Aquifer Study.

Monitoring, Inspections and Technical Assistance Section

Seven regional offices were in operation during 1988-89. These offices are located in Swift Current, Estevan, Kindersley, Watrous, Melville, North Battleford and Tisdale. Staff in the regions carry out inspections and sampling at industrial effluent works, municipal water and sewage works and at surface water stations.

Municipal Inspections

Over 1,000 inspections of municipal water and sewage works were conducted by Branch staff. Almost 300 visits were also made to municipalities to provide emergency or technical operating assistance and to follow-up on corrective measures.

Municipal Assessment and Certification Section

This section carried out nearly 200 inspections, handled 159 complaints about water and sewage works, and administered the Department's analytical support and operator training programs for municipalities.

Analytical Support Program

The Branch co-ordinates the Municipal Analysis Program. This program assists in the costs of analyzing the charges, and the quality of streams receiving sewage discharges.

During 1988, municipalities submitted nearly 12,000 drinking water samples to the Provincial Laboratories for bacteriological analyses. This represented 97% of the samples required by the licences issued by the Branch.

Special monitoring programs were co-ordinated concerning the levels of nitrates, fluoride, and trihalomethanes in drinking water.

Operator Training

At the end of the fiscal year, there were 232 certified operators for water and sewage works under the voluntary Operator Certification Program. Fourteen training sessions for plant operators were held during the year throughout the province, with a total attendance of 220.

The Branch administered the following correspondence courses for operators of municipal water and sewage works: Western Canada Water and Sewage course, California State University courses, Treatment Plant Supervision course, and an Outreach Program course.

Interagency Activities

During the fiscal year, Branch personnel participated on 24 different committees/boards. These range from the National Water Quality Task Force and the Water Quality Committee for the Prairie Provinces Water Board to the Advisory Board at Kelsey Institute. Comments on some of the interagency activities are noted below:

International Streams

Branch staff participated on the Poplar River Bilateral Monitoring Committee. The Committee exchanged data quarterly for air, groundwater, and surface water related to the Poplar River Power Station and the nearby coal mine. An annual report on the work of the Committee was published.

Branch staff were also involved in the evaluation of the water quality aspects of the proposed Rafferty and Alameda Dams. A water quality monitoring program has been implemented related to the project under the direction of the Branch.

South Saskatchewan River Basin

Branch staff took the lead role in several water quality projects for the Federal-Provincial water management study on the Basin. These included the development of water quality models to assist in the evaluation of future development and an evaluation of monitoring work in the Basin.

Lake Diefenbaker

A comprehensive report on the water quality in Lake Diefenbaker and the upper South Saskatchewan River was completed in cooperation with Environment Canada. This was the first study of this type on the lake.

Saskatoon Sewage Treatment

The Branch, the City of Saskatoon, the National Hydrology Research Centre and the University of Alberta implemented a joint investigation of the impacts from the sewage at the City of Saskatoon on nutrient levels and weed growth in the river. The results will be used to assist in the development of Canadian Guidelines for nutrients in streams.

Mercury in Saskatchewan Fish

Branch staff chaired an Interagency Mercury in Fish Committee, which reviews the results of mercury in fish in provincial waterbodies and makes recommendations to the public concerning fish consumption limits.

Effluent Irrigation

The Branch co-ordinated activities with the Saskatchewan Water Corporation and Saskatchewan Agriculture on effluent irrigation. Effluent irrigation is a good environmental option for sewage disposal where suitable land is available. During the year, a brochure was published on the benefits of effluent irrigation.

A Branch representative participated on a committee which is updating the mandate and policies on water quality for the Prairie Provinces Water Board.

Saskatchewan Water Corporation

The Water Corporation Act requires the Department's review and approval of construction applications for water and sewage works prior to the issuance of a construction licence by the Saskatchewan Water Corporation.

The Branch worked with the Corporation staff in preparing a strategy for addressing sewage lagoon problems and on many specific problems involving water and sewage works.

Complaints and Information Requests

Approximately 154 complaints were handled about water quality, sewage disposal and biocide use in water.

Over 1,362 inquiries and data requests from consultants, government agencies and private individuals were received.

Projects

Surface Water Quality Objectives

The Department has published a major revision to the Saskatchewan Surface Water Quality Objectives. The new publication contains objectives, policies and guidelines that will be used to protect the long-term quality of Saskatchewan rivers, lakes, and other waterbodies. New guidelines for effluent mixing zones are included.

Regina Ground Water Quality

There are concerns about the possible contamination of the Regina Aquifers. The available data show localized contamination of the Condie Aquifer, but not of the deeper, Regina Aquifer.

Activities completed include the implementation of a computer system for handling ground water quality data, acquisition of state of the art sampling equipment, and the development of sampling procedures.

Work is progressing on the development of land use guidelines for aquifer protection and on further investigation of the water quality of the aquifers.

Dioxins

Sampling in 1988 related to the Weyerhaeuser pulp mill near Prince Albert confirm previous results and show that dioxins and furans are not detectable in the discharge to the North Saskatchewan River or in the river near the mill. The mill previously took steps to reduce the possible creation of dioxins by substituting chlorine dioxide for chlorine. Dioxin and furan levels in sludge samples from the aeration pond at the pulp mill are similar to levels obtained in previous years. This is not considered a problem since wastewater discharge from the pond into the river did not have detectable levels of dioxins or furans.

Saskatchewan River System

Water quality surveys were conducted on Codette Reservoir, the downstream river reach, and on the impacts of effluent discharge in the area. Reports on the findings are under preparation.

Mines Pollution Control Branch

Objectives

- To ensure short and long-term protection of the environment at mining and milling operations.
- To protect the public from naturally occurring radiation hazards.

Activities

- Licencing; to issue and administer "approvals to operate" or "ministerial approvals" to mining companies.
- Inspections and monitoring; to routinely inspect mining operations and collect samples to determine compliance with licence conditions and provincial regulations.
- Data handling; to review and analyze all environmental data related to the mining industry.
- Regulation development; to develop and update provincial regulations related to the mining industry.
- Radiation surveys; to conduct surveys to monitor areas where the public exposure to naturally occurring radiation is a concern.
- Abandoned mines remedial action program; to identify abandoned mine workings of hazard to public safety and to the environment, and to initiate remedial action to reduce or eliminate the hazards.

Uranium Mines Section

The Uranium Mines Section is responsible for licencing, monitoring and inspecting all uranium and gold mining operations in the province. Staff visit the sites to perform inspections and take samples in and around the operations. Compliance water sampling at the sites resulted in more than 6,290 separate water quality analyses being performed from 15 final water quality monitoring stations. Approvals to construct and to operate the facilities are administered by the Branch. In addition, companies are required to monitor all aspects of the environment on a regular basis and submit the data to the Department. This monitoring data resulted in more than 21,000 separate water quality analyses being performed from 190 different sample locations. Additional monitoring requirements include fish, sediments, macrophytes, air quality, and other biological media. The public has access to all licences issued and the monitoring data.

The Uranium Mines Section is also responsible for administering the abandoned mines remedial action program.

Amok, Cluff Lake

Amok commenced mining and milling operations in 1980.

During 1988, the Company actively mined and milled ore from their Claude open pit and Dominique Peter underground mine.

In November of 1988, the initial development started on the Dominique Janine orebody. The operations consisted of stripping of overburden and dewatering of the general area. This small open pit mine should be mined out over a period of one to two years.

Permit to Operate Industrial Effluent or Sewage Works #MPCO-12 and Minister's Order for the Operation of Waterworks MCCMO-2 were issued on April 29, 1988. Amok continues to operate and adhere to the requirements of these permits.

The Amok, Cluff Lake mine site was inspected 12 times during 1988. The 18 water samples collected generated approximately 700 individual analyses for metals, radionuclides, nutrients and major ions. None of the 12 compliance monitoring samples collected at the final point of control on the effluent treatment system had individual parameters over specified regulatory limits. At no time during the term of the license were the effluent quality guidelines exceeded by the company.

Eldorado Resources Limited, Beaverlodge

Eldorado Resources' Beaverlodge operation near Uranium City has completed its third full year of transition phase environmental monitoring since the completion of the decommissioning work at the site. No remedial work was required on the reclaimed area for 1988-89.

Branch staff inspected the site six times during the fiscal year collecting 28 compliance water quality samples from 8 monitoring stations. A total of 1,008 water quality analyses were performed.

Key Lake Mining Corporation, Key Lake

The Key Lake Mining Corporation's mining and milling facility at Key Lake completed its fifth year of operation on October 20, 1988.

Permit to Operate Industrial Effluent or Sewage Works #MPCO-13 and Minister's Order for the Operation of Waterworks MPCMO-3 were issued on May 31, 1988. The company continues to operate and adhere to the requirements of these permits.

No major modifications or changes were made to the facilities during the fiscal year. The company has completed mining of the Gaertner ore body and are in the process of developing a final decommissioning strategy for the mined out pit.

Construction activities for the development of the Deilmann ore body include the removal of overburden and the continued operation of the groundwater dewatering system. Mining of the Deilmann ore body commenced in 1988 and is expected to run until approximately 1999.

The Company continued to operate a batch liquid effluent discharge system in order to monitor the quality of the effluent prior to discharge to the environment.

The Branch conducted twelve inspections during the fiscal year. Twenty-six compliance water quality samples were taken at three different stations and 942 analyses were completed.

Cameco - Rabbit Lake Operation

Permit to Operate Industrial Effluent or Sewage Works #MPCO-14 and Minister's Order for the Operation of Waterworks MPCMO-12 were issued on June 28, 1988. In the 1988-89 fiscal year mining, pit expansion and ore removal continued at the Collins B-zone. There were no major problems encountered. Ongoing geotechnical monitoring of the Collins Bay dyke continues to confirm the stability of the structure. Ore stockpiling and transportation of B-zone ore to the mill continued. A comprehensive review of the In Pit Tailings Disposal facility at Rabbit Lake was also initiated in the fall of 1988 by the Department.

The haul road extension to the new Eagle Point Ore Zone was constructed in the summer of 1988. By the end of the fiscal year, the final engineering designs, site surveying and centre line drilling of the decline at Eagle Point was completed. Though final design plans for the A and D Zones were also being completed, the company has postponed the development of these two ore zones.

Monitoring of the effluent at the final point of control confirmed that all licence conditions with respect to effluent limits were met. Handling and treatment of all contaminated waters on site continued to be handled effectively.

During 1988-89, there were 13 Branch inspections conducted. Twenty-nine compliance water quality samples were collected from six different locations and 1,215 analyses were performed.

Cigar Lake Mining Corporation

Development of a test mine for the Cigar Lake ore body continued throughout the year.

In addition to construction carried over from the previous year, the Company obtained construction permit MPCC-11 on June 13, 1988 for a minewater treatment plant building, special waste rock stockpile area, and a contaminated runoff collection reservoir. These were constructed during the summer and fall.

Operating Permit MPCO-17 was issued on September 14, 1988. This allows operation of all constructed facilities.

Shaft deepening continued throughout 1988, and was at a depth of approximately 300 metres by March 31, 1989.

Water flows were minimal to that point, averaging less than 50 litres per minute. Due to low water flows, no discharge to the environment was necessary until November 25, 1988. The minewater treatment plant was at that time commissioned on a

batch treatment basis, which continued to the end of March.

There were no effluent quality excursions above licence limits during the year. For most of the period of treatment, only suspended solids and pH required treatment.

The Branch conducted twelve inspections during the year.

Ten compliance or ambient water samples were taken, and 550 analyses were completed.

Cameco - Star Lake Operation

Star Lake's existing Ministerial Approval MPCO-10 and Minister's Order for the Operation of Waterworks MPCMO-1 were extended to May 31, 1989 to allow for further evaluation of the Fork Lake (Jasper) and JoJay Lake proposals.

The Rush Lake Zone and 21 Zone were both mined out by September and November, 1988 respectively. Decommissioning work on both these sites was initiated shortly after, and nearly 90% of the work was complete at the Rush Lake Zone by spring of 1989.

The mill would be out of ore feed by June, 1989 and will temporarily be shut down while negotiations and Environmental Assessment approval for mining of the Fork Lake (Jasper) project are continuing.

The Star Lake site operated their tailings effluent treatment system from July to the end of October, 1988. Further utilization of the sprinkler discharge system in the T2 and T3 muskeg areas for effluent treatment/polishing resulted in the licence limits being met for the final discharge to David Creek in 1988.

The Branch carried out 12 site inspections during the fiscal year. A total of 26 compliance water quality samples were collected from 9 sites and analyzed for 865 parameters.

Cameco - Fork Lake (Jasper)

On August 4, 1988 Ministerial Approval MPCO-16 was issued to Saskatchewan Mining Development Corporation (later amalgamated with Eldorado to form Cameco) for the Fork Lake Phase I exploration mine.

The test mine work continued until early in 1989 when a decision to shut down the site was forwarded on February 23, 1989. The operators were completing their information and data gathering for an environmental assessment proposal of a full scale mine. Milling at the Star Lake site has been proposed.

During the 1988-89 fiscal year, nine Branch inspections were carried out and thirteen water quality samples were collected from four sites. A total of 390 parameters were subsequently analyzed.

Claude Resources Ltd. - Seabee Project

Control of this property returned to Claude Resources from Placer-Dome Inc. in July, 1988. The test mine remained in a temporary closure mode pending development decisions by Claude Resources.

Two environmental inspections were carried out during the year. The mine and facilities remained in an acceptable "mothball" state.

Corona Corporation - Jolu Project

The previous name of Royex Gold Mines was changed to Corona Corporation following company reorganization.

An Operating Permit - MPCO-18, was issued to Corona Corporation on October 17, 1988 for operation of a gold mine and mill complex.

The mill was commissioned in October, 1988, and by the end of the year was milling 450 tons per day of ore.

All discharges from the mine and mill following start-up were directed to the Mallard Lake Tailings Management Area. There were no discharges to the environment from this facility.

Twelve inspections were carried out during the year.

Ten water samples were taken, and 500 analyses performed.

Denison Mines Ltd.

Denison Mines Ltd. received the necessary approvals in September of 1988 to develop an underground test mine on South McMahon Lake.

Construction approvals were issued in October and development of the test mine shaft was completed in June of 1989.

The company intends to evaluate the ore body from a cross-cut development and from the information gained to make a decision concerning the feasibility of proceeding with a full-scale mining operation.

The Company has been issued Permit to Operate Industrial Effluent or Sewage Works MPCO-19 and Minister's Order for the Operation of Waterworks MPCMO-11. The permits expire December 31, 1989.

Monthly inspections of the property were performed and have confirmed that the company has satisfied all aspects of their permits.

The Kasner Group of Companies

The Kasner Group of Companies, during 1988, carried out extensive diamond drilling and laboratory testing of the core samples and bulk samples from the Box and Athona sites located on the north shore of Lake Athabasca. Further test drilling to evaluate the ore body will be carried out in 1989. A production decision on these properties will be made once ore grade and reserves have been proven up.

The site was inspected four times during the fiscal year.

Vista Mines

During 1988, the Company was issued Permit to Operate MPCO-11, authorizing operation of the mill facilities for test purposes. The operation operated intermittently during the year.

During the fiscal year, 10 site inspections were conducted, 8 compliance water quality samples were taken from the mine water discharge and analyzed for 242 parameters.

Abandoned Mines Remedial Action Program

A remedial action program for the abandoned mines present in the province has been developed. This program identifies and prioritizes remedial on more than 500 abandoned mines and six tailings areas, located throughout the province. The Government is responsible for eliminating the public safety and environmental hazards associated with these abandoned mines, the majority of which are located on Crown land.

The program was initiated in May of 1988, and in February, 1989 a full time abandoned mines inspector was hired by the Branch to implement the abandoned mines program.

In July, 1988, a contract study by J.D. Mollard and Associates Ltd. was completed. This work involved a survey of abandoned coal mines in Saskatchewan and a preliminary assessment of public safety and environmental hazards associated with these sites.

During the summer of 1988, a comprehensive field inspection program was initiated. The status of 377 abandoned coal mines was established through contact with local councils, landowners and subsequent field investigations conducted on many of the sites. Remedial work eliminated hazardous situations at 22 of the abandoned mines. Nine different local contractors were utilized to do remedial work.

In December, 1988, a contract with IEC Beak Consultants was initiated to complete an environmental evaluation and subsequent conceptual decommissioning plan for the abandoned Gunnar and Lorado uranium mines in the Uranium City area.

The work plan for the next fiscal period involves the following elements:

- an intensive field inspection program of abandoned coal mines in Saskatchewan to identify and fill in hazardous mine sink holes that arise as a result of land subsidence;
- follow-up inspections on previous remedial work done to identify any further problems that might develop;
- raise the awareness of the hazards of abandoned mines through newspaper ads and discussion with local interest groups;
- undertake remedial work on abandoned mines in the Uranium City area; and
- initiate studies using contractors on potential hazards and reclamation options at selected abandoned mine sites.

Technical Services Section

In early 1986, a Technical Services Section was established to ensure that all specialized technical needs of the Branch are provided. Because of the complex nature of mining operations and environmental protection at mines, necessary expertise is provided in a wide range of disciplines including radiation, industrial chemistry, water quality and aquatic biology, hydrology, engineering and contaminant pathway analyses.

The Section manages the Branch's involvement with environmental assessment of mining projects and provides detailed assessments of technical documents submitted by mining companies and consultants. The Section also formulates responses to policy papers from other agencies and branches. Special studies are conducted to address specific needs in the Branch's program to control pollution from mining operations in the province.

Special studies to note at this time, occurred in two areas. A hydrogeological/geotechnical consultant conducted an in-depth technical review of the performance of the Cameco in-pit tailings disposal facility at Rabbit Lake. Together with University of Saskatchewan expertise the facility was modelled using all available geotechnical information. The report concludes that "it is performing well and is one of the best systems in use for management of uranium mill tailings".

The Section also conducted special studies at abandonded mine sites in the province with tailings. The two sites with uranium tailings have been the subject of a consultant's study to use all existing information to determine the environmental status of the sites and to recommend a range of possible remedial actions for clean-up. The report will be available in mid 1989. As well, the Section collected environmental quality information, tailings samples and acid production potential tests at six other abandoned mine sites in northern Saskatchewan. The test results are being compiled and a report on the environmental status of the sites will be available in mid 1989.

Radiation

The Branch has responsibilities for protection of the public from natural radiation hazards. Radon gas occurs naturally from radium decay in soil and rocks. The gas can "build up" in some homes to levels which may cause health effects. The results of province-wide radon level surveys were published by the Section in 1985. Follow-up surveys were completed in 1988 in southern Saskatchewan and a report detailing the results will be published in 1989.

The Section handles frequent inquiries from the public. A brochure that provides answers to inquiries was developed and published in 1988. A system to handle inquiries was developed and refined in 1988.

Potash/Coal Section

The Mineral Industry Pollution Regulations require that all mines having discharges of industrial wastes apply for Ministerial Approval to operate. This Section regulates these discharges for the ten potash mines and five coal mines in the province. Through the submission of monitoring reports and by site inspections, environmental control is maintained.

Other mining operations in the province regulated in a similar way by this Section included a base metal mine, a salt mine, a peat producer and a potassium sulphate development.

A total of nineteen Ministerial Approvals were issued by this Section to mining observations during the year.

Potash Mining

Saskatchewan's potash mines are authorized by approvals under the regulations to store waste salt and brine generated by mining and refining operations in approved areas. Excess volumes of brine may be injected into briny aquifers but no other releases are allowed.

All mines are monitoring the effectiveness of the containment systems.

During 1988 the Mines Pollution Control Branch requested the Saskatchewan Potash Industry to prepare conceptual decommissioning plans for their sites, particularly the tailings management areas.

The Department has established a co-operative approach with the potash industry in an effort to resolve this environmental priority.

Brine Inflows at Potash Mines

The problem with flooding of International Minerals and Chemical's (IMC) K-2 mine remains under control. The company has been able to reduce the brine inflow considerably but has been unable to eliminate it. Currently IMC is experimenting with backfilling and bulkhead design in an attempt to stabilize the situation.

The flooding of the Potash Company of America mine stabilized with the loss of the mine. A solution mine has been established accessing the flooded workings through bore holes.

The flooding of the Cominco mine, which has been relatively minor, is being studied to ensure that it does not develop into a mine threatening situation.

Coal Mining

All five coal mines were licenced under the regulations and the quality and quantity of discharge of waters were monitored. No particular problems were encountered.

Guidelines for spoil pile reclamation have been implemented and are being adhered to by the companies.

Environmental Assessment Branch

Objectives

- To have prospective developers fully informed about Saskatchewan's environmental protection policies and regulatory requirements.
- To have all plans for future development activities in or near Saskatchewan fully evaluated as to the acceptability of their likely environmental implications **before** commitments to proceed with those plans are made.
- To have in Saskatchewan a system of reserves which exemplify and protect both unique and typical aspects of the province's natural heritage.

Activities

- Apprise prospective developers of provincial environmental requirements applicable to their development proposals, particularly those requirements under legislation administered by Saskatchewan Environment and Public Safety.
- Administer Saskatchewan's environmental assessment process in accordance with requirements and provisions of the province's Environmental Assessment Act, and in so doing:
  - review preliminary development concepts to help prospective developers identify potential environmental and socio-economic problems therewith and define the scope of any assessments which might be necessary to satisfactorily address those problems and produce environmentally sound development plans;
  - review each Environmental Impact Statement (EIS) submitted to the Department by a developer seeking Ministerial Approval under The Environmental Assessment Act, to ensure that the document provides a technically sound basis for both public evaluation of the proposed development's likely environmental implications and the Minister's subsequent decision regarding if and how it may proceed;
  - facilitate public examination of and comments on each EIS in accordance with the requirements and provisions of The Environmental Assessment Act;
  - recommend to the Minister conditions which he might attach to his approval of each new development to increase the likelihood of its proceeding in an environmentally acceptable manner; and
  - monitor the implementation of plans approved under The Environmental Assessment Act to ensure developer's compliance with the terms and conditions of their approvals, and recommend appropriate action in any case where a developer fails to comply with those terms or conditions.
- Administer Saskatchewan's Ecological Reserves Act, and in so doing:
  - identify areas of the province worthy of reserve status;
  - arrange for official designation of those areas; and
  - establish conditions under which the reserves are to be managed and protected.
- Represent the Department on interagency and interjurisdictional committees and study teams attending to multidisciplinary environmental matters of importance to Saskatchewan.

During the 1988-89 fiscal year, 73 new development proposals were submitted to the Branch for formal review through the environmental assessment process. In addition, reviews of 19 proposals from the previous year continued in 1988-89. The status of the various proposals received or under review during the fiscal year was as follows:

Table 7

Projects Undergoing an Impact Assessment or Undergoing Screening at Year End

Proponent	Project
Black Lake Indian Band Council	Access Trail, Black Lake to Rabbit Lake
Cameco	Gold Mine Development, Amisk Lake
Cameco	Gold Mine Development, Fork Lakes
Cameco	Gold Mine Development, Preview Lake Area
Cigar Lake Mining Corporation	Permanent Access Road
Cigar Lake Mining Corporation	Waterbury Lake Uranium Development
City of Regina	Waste Management Study
Claude Resources Ltd.	Gold Mine Development, Laonil Lake
Ducks Unlimited Canada	Terry Wetland Development Project
Ekaton Industries Inc.	Kaolin Mine and Mill, Wood Mountain Area
Lenora Explorations/ Mary Ellen Resources Ltd.	Gold Mine Development, Uranium City Area
Lone Pine Resources Ltd.	Gas Field Development, Crane Lake North - Freefight Lake Area
Minatco Ltd.	McClean Lake Uranium Development
NorthSask Forest Products Inc.	Highway 903 Upgrading and Extension
Ocelot Industries Ltd.	Brine Evaporation Pit Development
Ocelot Industries Ltd.	1989 Sand Hills Gas Development Program
R.M. of Hoodoo	Wakaw Lake Weir
R.M. of Val Marie	High Grade Grid Access Road
Saferco	Nitrogen Fertilizer Manufacturing Plant
Saskatchewan Power Corporation	Island Falls - Points North 138 kv Transmission Line
TransCanada PipeLines Ltd.	1990 Gas Pipeline Looping Program
University of Saskatchewan	Waste Management Facility Incinerator

Table 8

Projects Screened - Impact Assessments Not Required

Proponent	Project
Alberta Energy Company	Exploratory Drilling Program, Great Sand Hills
Bighorn Land and Field Services	Seismic Program, West Central Saskatchewan
Buttes Resources Canada Ltd.	Brine Evaporation Pit
Canada Northwest Energy Ltd.	Exploratory Well Site, Reflex Lake
Canadian Occidental Petroleum Ltd.	Natural Gas Gathering System, Bronson Lake Area

Table 8 continued

Proponent	Project
City of Melfort	Eagle Lake Supplemental Water Supply
Ducks Unlimited Canada	Barlow Wetland Development Project
Ducks Unlimited Canada	Bolster Wetland Development Project
Ducks Unlimited Canada	Cabana Wetland Development Project
Ducks Unlimited Canada	Cheal Lake Backflood Irrigation Project
Ducks Unlimited Canada	Englishman Lake Wetland Development Project
Ducks Unlimited Canada	Honeywich Wetland Development Project
Ducks Unlimited Canada	Jackfish Marsh Wetland Development Project
Ducks Unlimited Canada	Lake Lenore Rearing Pond
Ducks Unlimited Canada	Little Quill Restriction Wetland Development Project
Ducks Unlimited Canada	Mistatim Wetland Development Project
Ducks Unlimited Canada	Moosomin Wetland Development Project
Ducks Unlimited Canada	Oliver South Wetland Development Project
Ducks Unlimited Canada	Pelican Lake South Wetland Development Project
Ducks Unlimited Canada	Prud'homme Wetland Development Project
Ducks Unlimited Canada	Robinson Lake Wetland Development Project
Ducks Unlimited Canada	Shuya Wetland Development Project
Ducks Unlimited Canada	Thomas Wetland Development Project
Ducks Unlimited Canada	Trapper Wetland Development Project
Ducks Unlimited Canada	Twelve Mile Lake Wetland Development Project
Ducks Unlimited Canada	Woloshyn Wetland Development Project
Ekaton Industries Inc.	Kaolin Pilot Process Plant, Regina
Golden Rule Resources Ltd.	Tower Lake Temporary Access Road
Lone Pine Resources Ltd.	Crane Lake Phase 2 Gas Development Program
Lone Pine Resources Ltd.	Gas Field Development, Crane Lake South
Lone Pine Resources Ltd.	1988 Gas Wells Pilot Project, Freefight Lake Area
Minatco Ltd.	Exploration Access Trail
Moose Jaw Forest Products Ltd.	Sawmill Development, Moose Jaw
North Canadian Oils Ltd.	Inglenook Battery and Gas Plant, Kindersley Area
North Canadian Oils Ltd.	Gas Well Development, Bigstick Lake Area
North Canadian Oils Ltd.	KCl Disposal Sites
Oakwood Petroleums Ltd.	Exploratory Gas Project, Crane Lake Area
Oakwood Petroleums Ltd.	Exploratory Gas Well, Piapot Area
Oakwood Petroleums Ltd.	Gas Wells Development, Crane Lake South
Oakwood Petroleums Ltd.	Gas Wells Development, Crane Lake Area
Ocelot Industries Ltd.	Gas Wells Development, Bigstick Lake Area

Table 8 continued

Proponent	Project
Petro-Canada Inc.	Exploratory Drilling Program, Freefight Lake Area
Petro-Canada Inc.	Gas Field Development, Crane Lake Area
Poco Petroleums Ltd.	Gas Well and Pipeline, Golden Prairie Area
Potash Company of America	Potash Solution Mine, Patience Lake
PreCambrian Shield Resources	Gas Wells Development, Bigstick Lake Area
Premier Sask Inc.	Expansion of Peat Moss Harvesting Project
Premier Sask Inc.	Peat Harvesting, Ravendale Bog
Saskatoon Chemicals	Saskatoon Chemicals Calcium Hypochlorite Plant Modifications
Saskatoon Chemicals	Saskatoon Chemicals Sodium Chlorate Plant Expansion
Saskatchewan Highways and Transportation	Highway 304 Relocation, Makwa to Highway 4
Saskatchewan Mining Development Corporation	Gold Test Mine, Fork Lakes
SaskOil	Beacon Hill Gas Project
SaskOil	Gas Wells Development, Hatton Gas Field
Saskatchewan Power Corporation	"A" Dam Replacement, Island Falls Generating Station
Saskatchewan Power Corporation	Boundary Dam - Shand 230 kv Transmission Line
Saskatchewan Power Corporation	Boundary Dam Supplemental Water Supply
Saskatchewan Power Corporation	Gas Pipeline, Bronson Lake to Tuberose
Saskatchewan Power Corporation	Private Airstrip, Charlot River Generating Station
Saskatchewan Power Corporation	Provincial PCB Storage Site
Saskatchewan Power Corporation	Riverhurst Irrigation Project 25 kv Transmission Line
Saskatchewan Power Corporation	1988 Rural Gasification Project
Shamrock Chemicals	Herbicide Formulating Plant, Regina
Uranerz Exploration and Mining Ltd.	MacFarlane Lake Winter Road

Table 9
Assessment Process Completed

Proponent	Project
Denison Mines Ltd.	Midwest Lake Uranium Test Mine Development
Kannata Highlands Ltd.	Kannata Valley Subdivision Development
Royex Gold Mining Corporation	Jolu Gold Mine Development

Table 10
Projects Deferred or Cancelled

Proponent	Project
Cameco	Bulk Testing, Jojay Gold Development
Redberry Development Corporation	Recreational Subdivision, Redberry Lake
Saskatchewan Power Corporation	Island Falls Generating Station Upgrading

Other Reviews

In addition to 92 projects undergoing formal environmental assessment review, the Environmental Assessment Branch was involved in the review of an additional 364 project proposals. These proposals comprised 38 subdivision applications, 93 referrals from Saskatchewan Water Corporation, 159 proposals related to oil and gas development, 13 proposals related to sand and gravel projects, 10 Treaty Indian Land Claims, 11 forest cutting plans and approximately 40 miscellaneous referrals.

A total of 25 blocks (involving some 208,200 ha) and 95 smaller parcels of land located in sensitive rangelands or sand dune habitat were screened in advance of sales of petroleum and natural gas rights.

Committees/Studies

Ecological Reserves

Several sites were examined for their ecological reserves potential. In addition, work was done toward determining the location of a potential ecological reserve in the Athabasca Sand Dunes of northwestern Saskatchewan.

Wetlands Technical Advisory Committee

The Branch continued to represent Saskatchewan Environment and Public Safety on the Wetlands Technical Advisory Committee. The purpose of this committee is to review proposals for water development projects which might affect waterways, lakes and wetlands, to resolve any conflicts which might arise among wildlife, fisheries, agricultural and environmental interests and to encourage development of works which are in the best interest of the Province of Saskatchewan. The committee also includes representatives from the departments of Agriculture, Parks, Recreation and Culture, and the Saskatchewan Water Corporation. During the 1988-89 fiscal year, 76 projects were reviewed by the Wetlands Technical Advisory Committee.

Environmental Guidelines

The Branch continued to distribute environmental protection guidelines pertaining to roads, transmission lines, mineral exploration, sand and gravel pits, and heavy oil projects. Draft guidelines for protection of environmentally sensitive lands, primarily in relation to oil and gas exploration and development, were widely distributed to industry. The efficacy of these latter guidelines is being monitored prior to their finalization as industry applies them in a variety of situations.

Protection of Environmentally Sensitive Lands

On an ongoing basis, staff of the Environmental Assessment Branch endeavour to identify environmentally sensitive areas within Saskatchewan, assess their vulnerability to different types of development activity and establish mitigation guidelines for prospective developers to follow in those parts of the province where development is expected to continue or increase.

Considerable effort was expended in 1988-89 in working with affected oil and gas companies, consultants, and other provincial and local government agencies in ensuring that proposed oil and gas projects in environmentally sensitive rangelands and dune sands were implemented in an environmentally acceptable manner. Emphasis was placed on project planning by the proponent, a process designed to assure that developers took responsibility for developing and implementing their own environmental protection plans as an integral part of their overall projects. Additionally, proponents of two natural gas development projects in the Great Sand Hills initiated environmental impact assessments.

Existing co-operative arrangements were maintained with Saskatchewan Rural Development and Saskatchewan Energy and Mines and other affected agencies to facilitate environmental review of all development activities proposed for the most sensitive lands. Close liaison was also maintained with Saskatchewan Parks, Recreation and Culture as that department developed policies for oil and gas exploration and development on parks and resource lands.

Research and Special Projects

Canadian Council of Resource and Environment Ministers

The Canadian Council of Resource and Environment Ministers' (CCREM) programs address environmental and renewable resource issues which are common across the country.

The Minister of Environment and Public Safety is a member of the Council. Several department staff members participate in a variety of programs as requested by the Minister.

In addition to the annual Council meeting, the Ministers held a special meeting to address management of PCB's in Canada.

Under the Hazardous Waste Action Plan, which was initiated in 1986, studies continued to develop guidelines and codes of practice for safe emission levels and handling, transportation, storage and disposal of hazardous substances. Other studies focused on hazardous waste recycling and waste exchange programs.

The National Task Force on Environment and Economy completed its work with the presentation to CCREM of a report on progress in implementing the Task Force's 1987 recommendations. Several provinces and the Federal Government appointed a Round Table on the Environment and Economy. The Saskatchewan Round Table on Environment and Economy was formed in March.

Other programs addressed water management and air quality issues, and co-ordination of environmental regulations and research across Canada. A national data base and inventory of environmental research and development projects sponsored by government, universities and the private sector was developed and distributed.

Toxicology Research Centre

The Toxicology Research Centre is a joint undertaking of the University of Saskatchewan and the provincial government. The Department of Environment and Public Safety is the lead agency on behalf of the Province.

Activities of the Centre relate to research and the provision of advice and analytical services on topics related to toxicology. Areas of interest include agricultural chemicals, quality of drinking water, environmental toxicology and related subjects. As in previous years, there were many demands on the services of the Centre.

Public Safety Division

Mission

- To provide safety standards to industry and the general public in the fields of boiler and pressure vessel installations; elevator and amusement ride installations; building and accessibility standards; fire safety and licencing of persons en gaged in the work of gas and electrical installation.

Activities

Activities of the Public Safety Division are concentrated in four Branches reporting to the Executive Director.

- Boiler and Pressure Vessel Safety Branch;
- Fire Commissioner's Branch;
- Building Standards Branch; and
- Licencing, Elevator and Amusement Ride Safety Branch

Licencing, Elevator And Amusement Ride Safety Branch

Objectives

- To administer the provisions of The Gas Licencing Act, The Electrical Licencing Act, The Passenger and Freight Elevator Act and The Amusement Ride Safety Act.
- To establish and enforce minimum safety standards with respect to the design, construction, installation and operation of elevating devices and amusement rides.
- To provide a high degree of safety to the public in respect to gas and electrical installations by establishing minimum qualifications pertinent to the licencing of journeymen and contractors engaging in the work of gas and electrical installations.

Activities

- Licence contractors, employers and tradepersons making gas and electrical installations, suppliers of gas and electrical equipment and propane distributors.
- Inspect and licence all elevating devices installed within the province and verify adequacy of design to adopted codes and standards.
- Inspect and licence all amusement rides operated within the province to ensure compliance to minimum safety standards.

During the year under review, internal reorganization of the Division was undertaken subsequent to the transfer of electrical and gas inspection functions to SaskPower effective July 1, 1988. The functions of gas and electrical licencing, elevator and amusement ride inspection under the former Gas and Electrical Safety Branches were combined to form the Licencing, Elevator and Amusement Ride Safety Branch.

Legislation and Regulations

The Licencing, Elevator and Amusement Ride Safety Branch administers the following Acts and regulations thereunder:

- The Gas Licencing Act;
- The Electrical Licencing Act;
- The Passenger and Freight Elevator Act; and
- The Amusement Ride Safety Act.

During the year under review, The Gas Licencing Act and The Electrical Licencing Act and associated regulations were developed and came into force on July 1, 1988.

The Amusement Ride Safety Act which was proclaimed in part in 1986 was proclaimed fully into force together with the Amusement Ride Safety Regulations on December 2, 1988.

Elevator Safety

Inspections

For the purpose of conducting elevator inspections, the province is divided into two areas, with inspectors located in Regina and Saskatoon.

The Passenger and Freight Elevator Act and Regulations made thereunder provide for periodic inspection of passenger and freight elevators in the province and for the annual licencing of elevating devices and elevator contractors. They also require that plans and specifications of new and major alterations be submitted to the Branch for approval and registration.

During the fiscal year, the Branch made 1,574 routine elevator reinspections, 84 acceptance inspections and 114 special inspections. Special inspections are those made for purposes of approving major changes in installations and those required to determine whether the equipment falls under the jurisdiction of the Act; whereas acceptance inspections are those performed on new installations before they are approved to be placed in operation.

Licencing

Table 11 indicates the number of annual licences issued during the years 1987-88 and 1988-89.

Table 11
Licences Issued Under The Passenger and Freight Elevator Act

Type of Licence		1988-89	1987-88
Passenger elevator		1,238	1,200
Freight elevator		200	197
Hand-Power freight		15	15
Hydraulic freight		72	77
Electric dumbwaiter		152	154
Handicapped lift		161	139
Manlift		53	54
Escalator		23*	23*
Workman's hoist		-	2
Chairlift		1	1
T-Bar		12	12
Rope tow		27	28
Elevator Contractor's	- Class "A"	9	9
	- Class "B"	16	16
	- Class "C"	1	1
Total		**1,979**	**1,928**

* Licences issued covered 53 escalators

New Installations

Seventy-eight (78) specifications for new installations and major alterations were approved and registered during the fiscal year, as shown in Table 12.

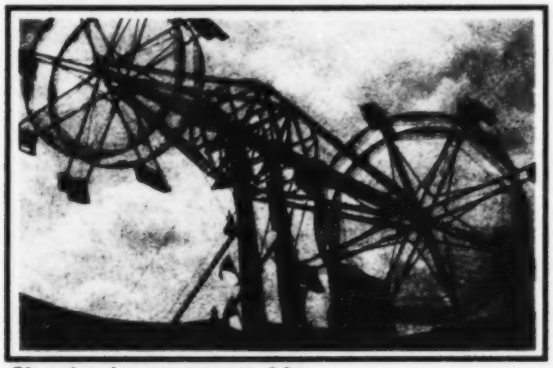
Table 12
Approvals and Registrations Issued Under The Passenger and Freight Elevator Act

Type of Installation	1988-89	1987-88
Passenger elevator	45	84
Freight elevator	4	6
Dumbwaiter	1	3
Handicapped lift	25	23
Manlift	-	-
Escalator	2	2
Workman's hoist	-	2
T-Bar	-	-
Rope Tow	1	2
Total	**78**	**122**

Amusement Ride Safety

Inspections

During the year, 206 amusement rides throughout the province were inspected with three correction notices issued to amusement ride owners.



Skywheel amusement ride.

Licencing

Due to the coming into force of the regulations in December, subsequent to the closure of the amusement ride season, no licences, registrations or inspection labels pertaining to amusement rides were issued.

Approval and Registration of Design

No design registrations pertaining to amusement rides were issued during the year under review.

Gas Licencing

Under the provisions of The Gas Licencing Act, propane distributors (storage and filling plant operators), installation contractors, employers, fitters and wholesale suppliers of gas appliances and equipment are required to hold a licence. Licences are issued on a one year basis or for a term not exceeding five years to individuals or companies who comply with the conditions of licencing set forth in the Act and regulations.

The number of licences in effect during the 1987-88 and 1988-89 fiscal years are shown in the following table.

Table 13

Licencing in Effect Under The Gas Licencing Act

Type of Licence	1988-89	1987-88
Domestic gas fitter	903	924
General gas fitter	1,129	1,076
Domestic gas contractor	240	284
General gas contractor	359	394
Limited gas contractor	31	53
Gas supply house	17	19
Employer's	57	56
Propane distributors	445	378
Total	**3,181**	**3,184**

Electrical Licencing

The contractor, employer and journeyman making electrical installations, and every person engaged in the business of a supply house must hold an appropriate licence as specified in The Electrical Licencing Act.

The licence indicates the qualifications of the holder and is used as a means of control in enforcing the Act and regulations thereunder. Table 14 shows the number of licences in effect during the 1987-88 and 1988-89 fiscal years.

Table 14

Licences in Effect Under The Electrical Licencing Act

Type of Licence	1988-89	1987-88
Full contractor	952	1,004
Limited contractor	60	70
Restricted contractor	66	67
Employers	139	127
Supply house	27	28
Full journeymen	4,141	4,085
Restricted journeymen	157	165
Total	**5,542**	**5,546**

Boiler and Pressure Vessel Safety Branch

Objectives

- To administer the provisions of The Boiler and Pressure Vessel Act; and
- To establish and enforce minimum safety standards with respect to the design, construction, installation, operation and maintenance of both high and low pressure boilers, pressure vessels of all types, pressure plants and other related hazardous equipment.

Activities

- Inspect all pressure vessels and boilers used in the province;
- Inspect all new designs of boilers, pressure vessels and related equipment prior to installation; and
- Examine and licence all power engineers, refrigeration engineers, refrigeration plant operators, firemen and pressure welders who will be operating or repairing equipment in the province.

Legislation and Regulations

The Boiler and Pressure Vessel Safety Branch administers The Boiler and Pressure Vessel Act and Regulations made thereunder. During the year, The Boiler and Pressure Vessel Act and several of the Regulations have been under review, but are yet to be finalized.

In the interest of uniformity of safety standards throughout Canada, the following codes and specifications have been adopted by Order-In-Council and are administered as part of the Regulations under The Boiler and Pressure Vessel Act.

(a) C.S.A. Code B51;

(b) C.S.A. Code B52;

(c) A.N.S.I. Code for pressure piping;

(d) A.S.M.E. Code for boilers, pressure vessels and pressure welding, sections one to eleven inclusive; and

(e) Department of Transport specifications for construction and testing of liquefied propane portable cylinders.

Inspections

The Boiler and Pressure Vessel Act provides for periodic inspections of all high pressure boilers in power plants, low pressure boilers in heating plants and all other pressure vessels and pressure plants used in connection with air, hot water, steam, oil, liquefied propane, anhydrous ammonia, compressed gas or for refrigeration purposes. It also provides for shop inspection of all pressure vessel construction performed in manufacturing plants.

During the year under review, inspectors made a total of 8,223 inspections. Included in this total were inspections of 285 new boilers, 1,089 pressure vessels and 51 refrigeration plants which were installed in the province. Of these, 294 were manufactured in the province and were shop inspected by inspectors during construction.

During the fiscal year, 5 new sites were reviewed and licenced for the storage and distribution of anhydrous ammonia, which increased the total of anhydrous ammonia plants to 159 in the province.

Inspectors also reset and sealed 390 safety valves, mostly used on oilfield vessels.

A total of 1,756 improvement orders, or recommendations pertaining to improper or hazardous conditions were made by branch inspectors in accordance with The Boiler and Pressure Vessel Act, and Regulations thereunder.

Under contract arrangements with Public Works Canada, 498 inspections were made under that department's Safety Code.

The number of inspections under The Boiler and Pressure Vessel Act during 1987-88 and 1988-89 are shown in Table 15.

Table 15

Number of Inspections Under The Boiler and Pressure Vessel Act

Type of Inspections	1988-89	1987-88
Boilers	5,040	3,963
Pressure Vessels	2,851	2,072
Refrigeration Plants	332	368
Total	**8,223**	**6,403**

Approval and Registration of Design

As provided in the regulations under The Boiler and Pressure Vessel Act, design drawings and complete specifications of every new design of a boiler, pressure vessel or fitting to be used in connection therewith, for use in the province, must be submitted to the office of the chief inspector for approval and registration before construction may legally commence.

During the year under review, 1,096 new designs were checked for compliance with the various regulations in force and the engineering codes adopted. Of these, 962 were registered and 132 were rejected. These numbers include 122 welding procedures, some which were single units, but most of which were in multiple groups.

Engineer's and Fireman's Qualification, 1988

Every engineer or fireman responsible for the operation of a high pressure boiler, a low pressure boiler of 300 or more kilowatts, a steam plant, or refrigeration plant, must hold a certificate of an appropriate class, as specified in The Boiler and Pressure Vessel Act. Such certificates are issued to persons who have the necessary qualifications and pass an examination.

All permanent certificates are valid for as long as they continue to be registered for a further five year period with the Branch. Temporary certificates are valid for one year from the date of issue and may be renewed without examination, if application for renewal is made in accordance with the regulations.

Under Section 29 of The Boiler and Pressure Vessel Act, the chief inspector may, in exceptional circumstances, issue a permit for a limited period of time authorizing the operation of a steam plant by a person holding a certificate one class lower than the appropriate class.

Table 16 shows certificates issued in each classification and the number of examination papers written in 1988.

Table 16

Engineers' and Fireman's Qualifications, 1988

Type of Certificate Examination	Examination Papers Written	Certificates Issued	Annual Registrations
First Class	72	2**	145
Second Class	120	14	269
Third Class	322	39*	434
Fourth Class	256	133**	949
Fifth Class	70	57	607
Heating Plant Engineer's	-	-	4
Refrigeration Engineer's	60	50	548
Permanent Certificates	**889**	**295**	**2,959**
Provisional	-	-	
Special Provisional	21	131	
Fireman's	821	3,643	
Refrigeration Operator's	86	418	
Temporary Certificates	**928**	**4,192**	
Thirty-Day Permits	-	20	
Ninety-Day Permits	-	100	

Note: The above totals include the following certificates issued on an exchange with other provinces and duplicate certificates issued:
3 Second Class Certificates
6 Third Class Certificates
30 Fourth Class Certificates
* Indicates duplicate certificate issued

Pressure Welding Qualifications

Welding regulations under The Boiler and Pressure Vessel Act, provide that any pressure welding on a boiler, pressure vessel, pressure piping, or pressure plant may be done only by persons authorized by the Boiler and Pressure Vessel Safety Branch.

Welding authorizations are issued to persons who have passed a welder's qualification test, supervised by an inspector appointed under The Boiler and Pressure Vessel Act. They are renewable eighteen months from the test date, subject to testing.

The number of welding qualification tests conducted during the 1987-88 and 1988-89 fiscal years are shown in Table 17.

Overseeing pressure welder's qualification test.

Table 17

Welding Qualification Tests

Type of Test	1988-89	1987-88
Qualification tests (each for four positions)	743	828
Pipeline and other special tests	260	294
Total tests	**1,003**	**1,122**

Accidents

During the past year, one accident was reported and investigated. Investigation revealed this accident was caused by malfunction of designed safety fittings possibly combined with human error.

Fire Commissioner's Branch

Objectives

- To administer The Fire Prevention Act, 1980;
- To provide a high measure of public safety;
- To minimize property loss as a result of fire.

Activities

- Foster fire prevention.
- Collect and disseminate information regarding fires in the province.
- Investigate or hold inquiries into any fire, where considered necessary or to ascertain cause, origin and circumstances.
- Inspect buildings or premises and order remedy or removal of conditions likely to cause fires.
- Provide training in firefighting and fire prevention.
- Authorize and/or undertake surveys and make recommendations respecting fire equipment and fire protection and provide assistance to other government departments, municipalities, industry, organizations, business committees and individuals with respect to fire safety measures.
- Examine plans and specifications for public and other buildings as required by regulations.

The Annual Report of the Fire Commissioner is published separately, based on the calendar year. It contains more detailed information on the activities of the Fire Commissioner's Branch, the causes of fires and the extent of fire loss in Saskatchewan.

Legislation and Regulations

The Fire Commissioner's Branch enforces The Fire Prevention Act, 1980 with general provisions applying to all property and the regulations enacted thereunder.

The Branch also inspects and carries out responsibilities with regard to regulations adopted under The Housing and Special-care Homes Act, The Residential Services Act and The Mental Health Act with respect to fire safety in special-care homes, homes for the aged, group homes, approved homes and private-service homes.

Inspections

The province is divided into eight inspection districts. Fire prevention officers are based in North Battleford, Prince Albert, Regina, Saskatoon, Swift Current and Yorkton. The Estevan, Moose Jaw and Weyburn districts are serviced by inspectors based in Regina. Of the seven inspectors based in Regina, four conduct the fire training program.

Inspectors (fire prevention officers) of the Fire Commissioner's Branch carried out an inspection program in 1988-89 in various classes of buildings with the exception of dwellings, where inspections were made only as a result of a complaint or obvious hazard. Inspection of dwellings by local authorities is encouraged so the Branch can minimize the large inspection staff which would otherwise be required for this activity. Hospitals, institutional buildings, schools and other places of public assembly were inspected in the interest of fire safety and evacuation procedures.

Routine inspections were conducted during the fiscal year in 141 towns, villages and hamlets.

In urban municipalities with paid fire departments, The Fire Prevention Act, 1980 provides authority and assigns responsibility for inspections.

During the period under review, Branch fire prevention officers made 3,273 inspections excluding oil burner inspections, which are mentioned elsewhere in this report. Of this number, 809 were special inspections and 587 were reinspection follow-ups on previous orders. A total of 421 orders to remedy certain conditions within specified periods of time were issued.

Inspection and improvement orders are shown in Table 18 according to class of property inspected.

Table 18
Inspections and Improvement Orders by Property Classification

Class of Property	Inspection (calls)	Improvement orders issued
Agriplexes	2	0
Amusement centres (arcades)	3	1
Ball parks	-	-
Bowling alleys	7	1
Change houses	-	-
Churches	285	18
Clubs	18	2
Court rooms	1	-
Day care centres	15	1
Funeral homes	-	-
Halls	304	38
Libraries	10	-
Licensed dining rooms	1	-
Museums	12	-
Pool rooms	-	-
Restaurants (cafes)	116	5
Rinks	364	48
Senior citizen centres	86	7
Schools (sheltered workshops, activity centres)	358	88
Swimming pools	12	-
Theatres	10	-
Assembly	**1,604**	**209**
Correction centres	10	-
Hospitals	103	6
Hostels	5	-
Jails	1	-
Nursing homes	108	12
Rehabilitation centres	9	-
Institutional	**236**	**18**
Apartments	133	27
Approved homes	59	-
Cabins	60	-
Convents, monasteries	1	-
Dormitories	20	5
Group homes	21	-
Houses	28	-
Hotels	286	96
Lodging houses	7	-
Mobile homes	9	-
Motels	56	7
Private-service homes	22	-
Summer camp buildings	-	-
Residential	**702**	**135**

Table 18 continued

Class of Property	Inspection (calls)	Improvement orders issued
Banks (credit unions)	6	-
Barber and hairdressing shops	2	-
Clinics (medical and veterinary)	7	-
Health spas	-	-
Laundromats and drycleaners	1	-
Offices	78	-
Radio stations	-	-
Business	**94**	**-**
Car washes	-	-
Department stores	-	-
Exhibition halls	-	-
Shops	1	-
Stores	61	-
Supermarkets	9	-
Mercantile	**71**	**-**
Above and underground tanks	69	11
Aircraft hangers	15	-
Auto body shops	7	-
Bakeries	1	-
Bulk oil plants (propane)	175	30
Cold storage plants	-	-
Concrete plants	-	-
Creameries and dairies	-	-
Factories	2	-
Fertilizer buildings	1	-
Fire Stations	36	1
Hatcheries	-	-
Lumber yards	4	-
Machine shops (metal, welding)	12	2
Manufacturing plants	7	-
Meat packers	-	-
Mills	1	-
Oil field supplies	2	-
Plumbing and heating shops	-	-
Power houses	-	-
Printing shops	1	-
Pump houses	9	-
Repair garages (implements)	75	2
Service stations	90	12
Storage garages and rooms	10	1
Upholstery shops	-	-
Warehouses (storage sheds)	45	-
Water treatment plants	-	-
Woodworking factories (shops)	1	-
Workshops	3	-
Industrial	**566**	**59**
Total	**3,273**	**421**

Plans and Specifications

During the fiscal year, 1,014 plans and specifications for new buildings, or additions to existing buildings, were reviewed. Of these 338 were approved with minor provisions and 492 were approved subject to alterations. Approval was not given in 71 examinations, either because of requirements for major redesign or because the review was only advisory. Sketches and drawings which were reviewed in consultation with architects and other interested persons previous to the preparation of preliminary and/or final drawings tallied 113.

As in previous years, plans required to be submitted were examined for compliance with the Flammable Liquid Regulations, the Hotel Regulations, the Hospital Fire Regulations, the Regulations Governing Fire Safety in Educational Buildings, the Regulations Governing Installation of Automatic Sprinkler Systems, and pertinent sections of the regulations under The Housing and Special-care Homes Act.

In examining plans submitted for government buildings and plans voluntarily submitted for structures such as churches, lodge rooms, and dry cleaning plants, the Fire Commissioner's Branch continued to apply the National Building Code of Canada as widely as possible. Codes of the National Fire Prevention Association and other standards of good practice are also used for this purpose.

The following table shows the number of plans and specifications reviewed since 1986-87.

Table 19
Plans and Specifications Reviewed by Disposition

Disposition	1986-87	1987-88	1988-89
Approved	401	412	338
Approved subject to alteration	883	614	492
Rejected or pending	145	79	71
Design consultations		109	113
Total	**1,429**	**1,214**	**1,014**

Fire Investigation

Fire Commissioner's staff participated in 125 investigations including cases in which arson was suspected, and in cases in which for fire prevention reasons, it would be in the public's interest to determine the cause of the fire. While fire prevention officers made a number of investigations unassisted, they frequently aided law enforcement officers in determining the cause of the fire, whether accidental or intentional in origin.

It should be noted that all fires reported are investigated for cause, origin and circumstance by either the Local Assistant to the Fire Commissioner (secretary-treasurers, fire chiefs and their staff) or police, insurance agencies, special investigation units, the Fire Commissioner's Branch staff or a combination of these forces.

Fire investigation.

Fire Record

Under the provisions of The Fire Prevention Act, 1980 the Fire Commissioner is required to maintain a record of fires occurring in the province, including facts relating to origin and circumstances, as determined by Fire Commissioner's Branch investigations, reports of fire chiefs, insurance adjusters and police. Data contained in reports of fires are summarized in the Annual Report of the Fire Commissioner.

The property loss for 1988 was $47,038,700. Fires in one and two family dwellings continued to be highest in number; in 1988, 29.31% of all fires reported were in dwellings. This represents a total of 837 fires with property loss of $16,922,300 - 35.97% of 1988 dollar loss.

The number of lives lost in fires in Saskatchewan decreased in 1988 from 1987. Twenty-four persons (13 men, 4 women and 7 children) lost their lives in fires.

Oil Burners

The Fire Prevention Act, 1980 and regulations thereunder require that distributors and wholesalers of oil burners obtain an annual licence, and that firms or persons installing and servicing oil-burning equipment take out an annual or quinquennial licence, as authorized by the Fire Commissioner, for such work. The number of licences and the number of oil burner installation permits issued during the fiscal year ended March 31, 1989 are shown in Table 20.

Table 20

Oil Burner Licences and Permits Issued Under The Fire Prevention Act, 1980

Type of licence or permit	1988-89
Wholesalers or manufacturers (annual)	5
Installers (annual)	11
Installers (quinquennial)	33
Total oil burner licences	**49**
Total oil burner permits (annual)	**7**

Fire Prevention

During the year under review, fire prevention and fire training films were widely distributed throughout the province. These films were used by schools, fire departments and various organizations. These films are maintained in the library of Educational Resources Distribution, Saskatchewan Education, and bookings for such films can be made through them. Some films, slides and VCR tapes are also available from the Fire Commissioner's Branch.

The Fire Commissioner's Branch continued to advise municipal councils and fire departments on fire protection requirements. A total of 73 fire department surveys were made during the year. Inspectors advised institutions, hospitals and hotels on fire emergency programs, fire exit drills and other safety matters. In addition, inspectors attended 193 special meetings with fire chiefs, local authorities and other persons concerned with fire prevention. The fire prevention education program is summarized in Table 21.

Table 21
Selected Activities in Fire Prevention Education

Selected Activities	Number of Meetings	Attendance
Public meetings	24	863
School lectures	322	28,763
Other lectures and demonstrations	21	386
Film showings	373	29,594
Fire department meetings	35	312
Municipal council conferences	8	73
Meetings with school boards	1	33
Meetings with hospital boards	6	66
Meetings with fire chiefs	36	-
Court cases	2	-
School fire drills	39	6,718
Building/design consultants	56	-
Learn Not to Burn In-service programs	1	15

Note: Attendance figures are not recorded for all activities.

Fire Prevention Week

In 1988, the week of October 9 to 15 was designated as Fire Prevention Week and was emphasized by means of lectures to school children, distribution of films, special fire prevention literature, news releases and special messages from both the Minister-In-Charge of The Fire Prevention Act, 1980 and the Fire Commissioner.

Firefighters' Training and Fire Prevention Program

In 1988-89, scheduled training programs were conducted in ninety-nine communities throughout Saskatchewan. More than fourteen hundred paid and volunteer firefighters received training ranging from basic fire fighting to Level 1 certifiable training modules.

One Regional Fire School was conducted in Oxbow involving seventy firefighters from the surrounding communities. The concept of regional training programs will be pursued in the upcoming year.

Instructor programs were delivered in Regina and Humboldt, where fourteen firefighters were certified as Level 1 Fire Service Instructors.

One automobile extrication course was delivered in Broadview involving twenty firefighters from surrounding communities.

The increasing number of fireworks and fireworks displays indicated the need for training of personnel in this area. One Fireworks Supervisor's Course, co-ordinated with the Explosives Branch of the Department of Energy, Mines and Resources, was delivered to sixty-five people.

In May of 1988, The Fire Commissioner's Branch, in conjunction with the Saskatchewan Police College, conducted the tenth annual Fire and Arson Investigation Course. This program was attended by forty police, fire and insurance personnel.

One of the most successful modules is the Hospital Fire Prevention Program. More than eleven hundred and fifty staff members in fifty-one hospitals and nursing homes received training in fire prevention, fire protection equipment, extinguishers and the safe evacuation or relocation of residents.

In addition, six hundred and ninety people took part in twelve miscellaneous fire prevention programs. These sessions involved members of the R.C.M.P., Wascana and Kelsey Institute, Youth Unlimited and several industrial organizations.

Building Standards Branch

Objectives

- To provide minimum safety standards for the public with respect to the design, construction, use and occupancy of buildings.
- To provide standards that will ensure that an appropriate range of buildings will be accessible to persons with physical disabilities.
- To assist municipalities in the administration of the provisions of The Uniform Building and Accessibility Standards Act and regulations.

Activities

- Maintenance and development of minimum safety standards with respect to the design, construction, use and occupancy of buildings.
- Maintenance and development of requirements that ensure that an appropriate range of new buildings are accessible to persons with physical disabilities.
- Assistance to municipalities by the provision of information and advice to enable them to properly administer and enforce provisions of The Uniform Building and Accessibility Standards Act and regulations.
- Provision of assistance to building inspectors in the interpretation of the Act and regulations and advice when needed for the performance of their duties.
- Liaison with the building departments of other provinces and territories, the Associate Committee on the National Building Code of Canada and other appropriate organizations to promote the development of the National Building Code and the Saskatchewan Building and Accessibility Standards Regulations.
- Inspection of public arenas in the interests of public safety and advice to Arena Management Boards on necessary maintenance and on appropriate courses of action where structural problems are evident. A number of arenas were inspected with reports being submitted to the Arena Management Boards or the concerned municipality.

Legislation and Regulations

Building Standards Regulations and Accessibility Standards Regulations were completed during this fiscal year and these, together with The Uniform Building and Accessibility Standards Act, came into force on June 6, 1988, as province-wide legislation for the control of building design and construction.

The development of amendments to The Uniform Building and Accessibility Standards Act was initiated during the fiscal year. These proposed amendments are in response to experience gained with the legislation since its inception and the expressed needs of municipalities in the administration and enforcement of this legislation.

Copies of the Office Consolidation of The Uniform Building and Accessibility Standards Act, The Building Standards Regulations and The Accessibility Standards Regulations were sent to all municipalities, to all interested groups and organizations, and to members of the public on request.

Presentations on the subject of The Uniform Building and Accessibility Standards Act and regulations were made to representatives of urban, rural and northern municipalities, interior designers, architects, engineers and building officials. These presentations provided explanations and advice on administration and enforcement of the Act and regulations and on how this legislation effects these various groups and individuals.

The Saskatchewan Building and Accessibility Standards Appeal Board

The Appeal Board met once during this fiscal year to establish its policy and method of operation. The Board was also active in providing assistance to the Branch in the interpretation of The Accessibility Standards Regulations.

Communication

A quarterly newsletter to provincial building inspectors and interested or affected persons was initiated. This newsletter contains information, book reviews, news on building matters, advice on administration and enforcement, articles and information sheets for use in the process of building regulation. Copies are sent, free of charge, to all such persons upon request.

A building inspector's manual was developed and was in the process of publishing at the end of the fiscal year. This manual is of some three hundred pages and contains an explanatory commentary on Part IX, Housing and Small Buildings, of the National Building Code, 1985, and supplementary data for the use of building inspectors. We are indebted to the Alberta Government for the provision of the base material upon which this manual is based. The manual is to be sent, free of charge, to all municipal building inspectors and will be available to all interested members of the public.

1990 Codes

Proposals from the National Research Council for amendments to the 1985 edition of The National Building Code, The National Fire Code and The Canadian Farm Building Code for the scheduled 1990 edition editing were received. These proposals received extensive study and comments were made to the National Research Council as to their acceptability for our regulations.

Saskatchewan Emergency Measures Organization

Objectives

- To develop an effective emergency response structure at both the provincial and municipal levels of government to ensure the survival and recovery of our citizens and communities from any peacetime emergency or disaster.
- To enhance the national capability to respond to any national emergency.

Activities

- Ensure all departments and agencies develop a response capability for meeting their own emergencies as well as providing assistance to municipalities and other departments as required.
- Encourage and assist municipalities with emergency planning, training and exercises to provide a greater capability to respond to emergencies.
- Encourage development of Mutual Aid Areas so all resources in an area can be brought to bear on any emergency.
- Develop programs to ensure the Government will be able to continue normal or near normal operations during a major emergency or disaster.
- Utilize federal funding available under the Joint Emergency Planning Program to further the development of emergency planning in Saskatchewan.
- Develop and conduct training programs to meet the emergency planning needs of departments, agencies and municipalities.

Provincial Emergency Preparedness

The Provincial Emergency Planning Act has received second reading and is scheduled to begin third reading. The Emergency Planning highlights include:

- Clarification of roles and responsibilities of provincial and municipal governments;
- Local governments to be extended the authority to declare local emergencies; and
- Good Samaritan Clause protects people from legal action when lending assistance during a locally declared emergency.

Efforts continue to ensure various agencies and departments fulfill their obligation outlined in the Cabinet Directive.

Municipal Emergency Preparedness

Municipal emergency preparedness continues to be the main thrust of the efforts put forward by the Saskatchewan Emergency Measures Organization.

Several communities were affected by forest fires and tornadoes in the 1988-89 year.

In the case of the forest fires, several communities were evacuated, and later returned with the assistance of municipal and provincial agencies.

Several communities in both the northwest and southeast of the province suffered from tornado damage. Although no lives were lost, both areas were disrupted for several days, but recovery was quick with the assistance of local and provincial agencies, as well as the Mennonite Disaster Services.

In all, over 400 municipal visits were made, as well as contact through letters, phone calls and training courses with the following results.

- Over 90 municipal Emergency Measures Organizations were established, including both urban and rural local governments.
- There were 12 more Mutual Aid Areas formed.
- There were 20 municipal paper exercises and 7 Mutual Aid Area exercises conducted.
- Training continued with plans to hold two Mayors and Elected Officials Courses, two General Orientation Courses, an EMO Co-ordinators Conference, as well as a Plans and Operations Peace Course to be held in conjunction with the federal Emergency Preparedness Canada staff.
- Eleven Dangerous Goods Courses were conducted at the municipal level by staff from the Saskatchewan Emergency Measures Organization.

- Total attendance at all courses and conferences exceeded 700.
- Suitable municipal candidates continued to take advantage of the training offered at the federal Emergency Preparedness College at Arnprior, Ontario.

Rescue equipment purchased by Pilot Butte under JEPP.

Joint Emergency Planning Program (JEPP)

The Joint Emergency Planning Program is a federal program which provides 6.5 million dollars across Canada to help fund those projects which will enhance the emergency response capabilities at both the provincial and municipal levels. Following the signing of a Memorandum of Understanding between the Government of Canada and the Province of Saskatchewan in 1985, the Saskatchewan Emergency Measures Organization negotiated a five year emergency preparedness program with Emergency Preparedness Canada which identified joint priorities and interest areas and qualified for funding under JEPP. The budget for year four of the program, 1988-89, received the approval of Emergency Preparedness Canada.

In 1988-89, over $478,500 in federal funding for JEPP projects was approved for Saskatchewan. This amount included $201,500 for our provincial five year program and $277,000 for 18 municipal projects which were submitted. During the same period 19 municipal projects received funds under JEPP totalling $271,676 while our provincial program was eligible for $171,163. This has contributed greatly to increasing the emergency response capabilities of municipalities by providing funding for planning, training and purchase of equipment.

Mock emergency exercise.

National Emergency Arrangements (NEA)

In accordance with the Memorandum of Understanding, signed between the Government of Canada and the Government of Saskatchewan in 1985, the Government of Saskatchewan is assisting the Federal Government in implementing eleven NEA's.

The Government has contracted Venus Consulting to co-ordinate the necessary federal-provincial agreements to implement these National Emergency Agencies.

The Province of Saskatchewan is putting forward a model for Food and Agricultureal Emergency Response (F.A.E.R.S.). Much progress has been made with the federal government in developing the

National Emergency Arrangements for Energy (Gas and Electricity). In the next year, Saskatchewan will begin work with the federal government on the development of:

- National Emergency Arrangement for Transportation
- National Emergency Arrangement for Health & Welfare Canada
- National Emergency Arrangement for Manpower
- National Emergency Arrangement for Communication
- National Emergency Arrangement for Construction

Table 22
Municipal Projects Paid Under JEPP 1988-89

No.	Project	Actual Cost	Federal Contribution
53	Prince Albert Chemical Suits	7,240.80	3,620.40
62	Shaunavon Rescue Vehicle	11,977.90	5,988.95
63	Leask Communications	9,416.00	4,708.00
64	Moose Jaw Rescue Equipment	39,259.60	19,372.36
65	Tisdale Rescue Vehicle	13,468.39	6,734.15
66	Strasbourg Communications	55,863.42	27,931.71
67	Outlook Communications	79,337.26	39,668.63
68	Assiniboia Communications	84,865.44	42,432.72
69	Naicam Rescue Equipment	18,594.23	9,296.18
70	Prince Albert Communications	3,948.38	1,974.38
71	Humboldt Communications	2,090.10	1,045.05
72	Meadow Lake Rescue Equipment	9,147.52	4,573.76
73	Pilot Butte Rescue and Communications	12,960.80	6,480.40
74	Outlook Rescue Equipment	17,316.28	8,658.14
75	Hanley Communications	46,816.48	23,408.24
76	Dalmeny Rescue Equipment	14,952.48	7,365.11
77	Maple Creek Communications	42,485.86	21,242.93
78	Esterhazy Rescue Equipment	21,661.08	10,830.54
79	Foam Lake Communications	52,795.29	26,344.47
		$554,197.22	**$271,676.12**
19 Projects			(49.2%)

Table 23
Provincial Projects Paid Under JEPP 1988-89

No.	Project	Actual Cost	Federal Contribution
24-4/88	Sask. Five Year Plan	377,866.72	171,163.39
		$377,866.72	**$171,163.39**
1 Project			(45.29%)

Administration and Communications Branch

Objectives

- To provide central administrative, financial, personnel, library, information, procurement, systems and office support services to all branches.
- To assist and advise Department management; and develop, evaluate and implement administrative policies.
- To represent the Department and provide liaison with private and central government agencies for the acquisition of resources.
- To keep the public informed of environmental and public safety issues; and to enhance public awareness of department policies and programs.

Activities

- Executive administration to facilitate Department management for the Minister and Deputy Minister.
- Management services to advise on administrative, financial and personnel operations; preparation of budgets, legislation, Cabinet and Treasury Board submissions; and administrative policy development and implementation.
- Financial services for central accounting of expenditures and revenues, contract administration, and grant payment authorization; and the acquisition of CVA vehicles, supplies, equipment and services.
- Human resources services for management of central records, forms, filing, mail and library functions; provision of office space, furniture and parking; and staff recruitment, classification and development, including field office operations.
- Systems services for acquisition, management and operation of all Department computer systems; provision of analyst support services; and co-ordination of central word processor services.
- Information services for the management of Department publicity campaigns; design and development of program brochures and publications; preparation of press releases and public meeting notices; co-ordination of annual reports; maintenance of Department audio-visual equipment; and operation of the Department's inquiry line.

Financial Services

The Financial Services Section is responsible for all Department financial functions which include purchasing, budgeting, financial reporting, processing of payments and the collection of Department revenue. The Section is fully automated using personal computers in conjunction with the centralized government financial systems. In addition to offering a full range of financial services, the Section administers the Department's CVA vehicle fleet, telephones and the central stockroom.

A total of 7,498 payments were processed over the year. A CVA vehicle fleet of 33 vehicles was maintained for use by employees on government business during the fiscal year.

The Section is fully automated using personal computers and the Government Revenue and Expenditure System. Central control of equipment inventory, CVA vehicles and telephone requirements have been aided by this automation.

Table 24
Department Expenditures and Revenues

Expenditures	$	% Total
Administration and Communications	1,222,959	11.8
Environmental Protection	3,910,741	38.2
Environmental Assessment	405,597	4.0
Emergency Measures Organization	377,867	3.7
Public Safety	3,038,065	29.6
Payments to the Saskatchewan Property Management Corporation	918,222	9.0
Grants for Environmental Purposes	27,915	0.3
Grant to Toxicology Research Centre	200,000	2.0
Grant to Water Appeal Board	97,963	1.0
Members of the Executive Council	44,805	0.4
Total	**$10,244,134**	**100.0%**

Revenues	$	% Total
Boiler and Pressure Vessel Safety - Fees/Licences	1,234,392	61.0
Elevator and Electrical Safety - Fees/Licences	376,726	18.6
Gas Safety - Fees/Licences	177,846	8.8
Fire Commissioner Licences	2,185	0.1
Emergency Measures Organization - Cost Share Claims/Canada	221,598	11.0
Other	9,180	0.5
Total	**$2,021,927**	**100.0%**

Figure 3

Saskatchewan Environment and Public Safety
Percentage Allocation of Department Expenditures

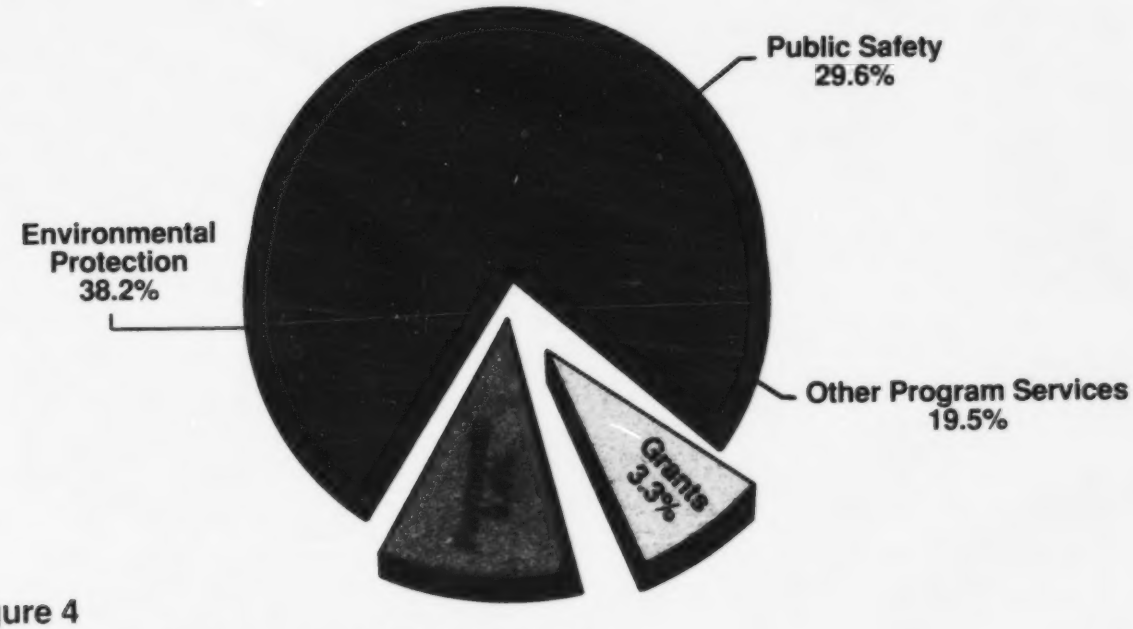
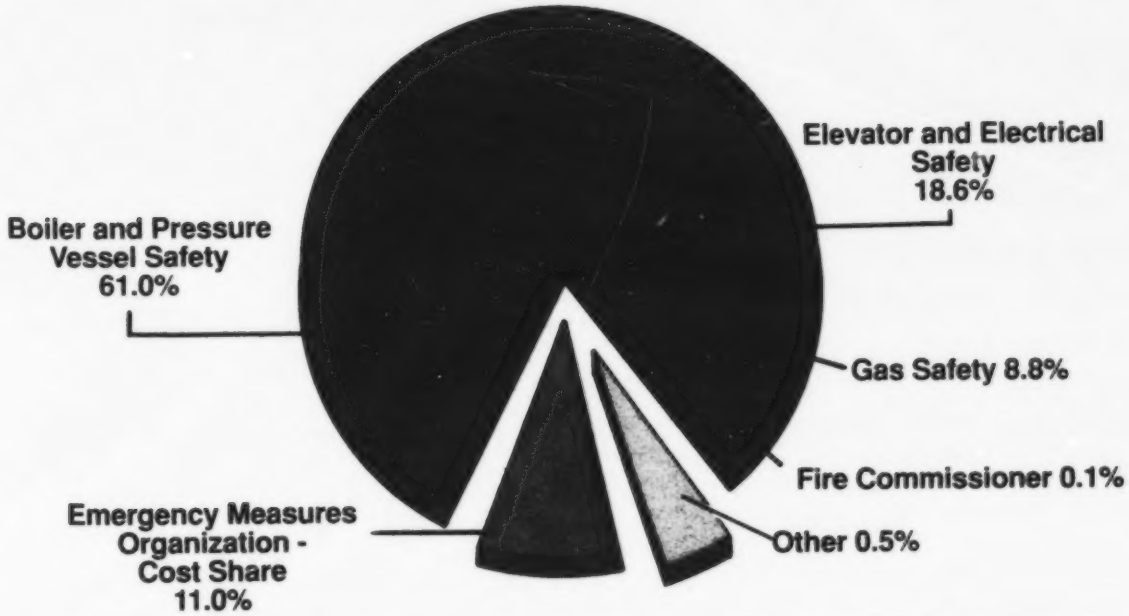


Figure 4

Saskatchewan Environment and Public Safety
Percentage Allocation of Department Revenues



Human Resources

This Section provided central personnel, accommodation, library records and mail services to the Department. The government automated Human Resources System is utilized for most personnel transactions through the use of personal computers.

A total of 14 recruitment and 19 classification actions occurred during the fiscal year. In addition to this, a total of 18 non-permanent employees were recruited to meet program requirements.

The Electrical and Gas Inspection Program, a total of 43 person years, was transferred to Sask Power July 1, 1988.

The staff development function continued as an important factor in meeting the training needs of Department staff. Employees participated in 40 training courses over the year representing 176 person days of training for the Department.

Table 25
Department Position Allocation

Program	Person/Years	% Total
Administration and Communications	23	14
Environmental Assessment	9	6
Environmental Protection	57	35
Public Safety	70	43
Emergency Measures	3	2
Total	**162**	**100**

The library subscribed to periodicals and purchased books, reports pamphlets and microfiche for staff. The library also obtained inter-library loans, and co-ordinated staff requests for computer searches.

The library houses 800 books, 5,300 government documents, and annual reports for 53 agencies. It has subscriptions for 147 journals and newspapers. It is also a depository for copies of Environmental Impact Statements for public use during review periods.

Table 26
Department Library Services

Inter-library loans (from other libraries)	410
Inter-library loans (to other libraries)	50
Circulation to staff	975
Circulation to public	95
Reference questions	450
Book orders for the Department	300
New journal orders for the Department	25
Materials catalogued	434

Systems Services

This Section co-ordinated all computer programs in the Department and participated in systems studies to improve effectiveness and efficiency of Department operations. Services included assisting branches in the acquisition of computer equipment, providing analyst support services and developing computer programs for use by the Department.

The Section participated in the University of Regina and SIAST Work Study Programs. During the fiscal year, the Section assisted in acquiring six computers, three laser printers, two letter quality printers, one portable computer, and software for use in Department program branches.

Significant resources were allocated to development of software, computer training, and analysis for the Department Informatics Strategic Plan.

Table 27
Department Computer Systems

Branch/System(s)	Description
Administration and Communications	
Revenue and Expenditure (RES)*	Government accounting and payment system
Human Resources (HRS)*	Government personnel database and payroll system
Generalized Retrieval and Storage Package (GRASP)*	Database of Department mailing list
Spreadsheet	Decision assist for revenue accounting
Environment Quiz	Database of environment related questions for displays/shows
Air and Land Protection	
Environmental Data Management (EDMS)	Air quality monitoring database
Spill Reporting	Spills of pollutants reported to the Department
Landfills and Liquid Waste Haulers	Database for regulations and permits
Modelling for Groundwater Resources	Decision assist for groundwater analysis
Mines Pollution Control	
Modelling Hydrogeological Contaminants	Decision assist for mine operation analysis
Spreadsheet for Radon Data	Analysis of radon data
Water Quality	
ESQUADAT*	Database of chemical and bacteriological data on surface water, drinking water and wastewater
BIODAT*	Database of biological data
WINDAT	Database of municipal water and sewage works
Spreadsheet/Modelling	Decision assist for water quality monitoring
EnviroBase	Database of groundwater for Regina Aquifer
Bacti	Database of bacteriological data
Construction	Database of municipal facilities construction
Fire Commissioner	
Fire Statistics	Database for fire statistics
Sprinkler Modelling (SPRINKS)	Evaluation of sprinkler system design
Fire Exam	Database of fire examinations questions
Licensing, Elevator and Amusement Rides	
Gas Licensing Renewal	Issuing of contractor, employers and tradespersons licenses; preparation of reports
Electrical Licensing Renewal	Issuing of contractor, employer and journeyman licenses; preparation of reports
Elevator Licensing Renewal	Issuing of elevator licenses
Boiler and Pressure Vessels	
Inspections and Invoicing*	Database of boilers and pressure vessel inspection scheduling and invoicing for inspection activities
Licensing of Engineers and Firemen	Issuing of engineer and fireman certificates

Table 27 continued

Emergency Measures Organization

Line Load Control	Database of emergency response individuals

Note: All above systems are operated by standalone microcomputers; except for systems marked with an asterisk which utilize Westbridge mainframe support. All Branches in the Department have Word Processing systems for administrative support.

Information Services

Information Services continued efforts to keep the public informed of all Department programs and policies as well as other issues of environmental and public safety concern. This was achieved through the use of advertisements, news releases, notices and tender ads. Twenty-two news releases were prepared and distributed to the media during the fiscal year.

Table 28

Department News Releases 1988-89

Date of Release	Subject
April 13, 1988	Gold Mine Receives Environmental Approval
April 14, 1988	Dioxin Results Released
May 13, 1988	Canned Beverages to be sold in Saskatchewan
May 26, 1988	Environment Week Proclaimed
June 21, 1988	Institutional Chemical Collection Program Successful
June 22, 1988	Regina SARCAN Recyle Centre Officially Opened
July 7, 1988	Principal of Training Appointed
July 21, 1988	Premier Opens Moose Jaw Recycle Centre
July 28, 1988	Public Review Period Announced (Midwest Joint Venture Uranium Test Mine)
September 16, 1988	Abandoned Mine Program Well Under Way
October 5, 1988	Fire Prevention Week October 9 to 15
October 14, 1988	Ceiling Surface Lighting Fixtures Recalled
November 1, 1988	Plastic Containers for Soft Drinks Approved
November 22, 1988	Uranium Test Mine Receives Environmental Approval
December 16, 1988	Electric Generators Recalled
January 9, 1989	PCBs in Soil at New Life Feeds
January 16, 1989	Hazardous Substances Regulations Approved
January 31, 1989	Winners of Fire Prevention Poster Contest Announced
February 2, 1989	Dioxin Results Released
February 16, 1989	Waste Management and Work Opportunities to be Discussed at Meeting
March 6, 1989	Portable Hair Dryers Recalled
March 29, 1989	Swan Announces Round Table on Environment and Economy

Information Services developed and implemented a multi-media campaign to coincide with the introduction of the sale of soft drinks and beer in aluminum cans in Saskatchewan. The Now You Can... campaign included print and radio advertisements as well as promotional print material such as posters. Staff also assisted in co-ordinating a number of openings of recyle centres throughout the province.

The Department continued its support of recycling aluminum cans by carrying this message through into its Environment Week Advertising Campaign. Staff from this Section also acted as Co-Chairperson on the Saskatchewan Environment Week Planning Committee.

Information Services supplied a weekly clipping service to all Branches covering issues of environmental and public safety concern.

Existing information materials continued to be distributed on request. New print materials such as a pamphlet entitled "Fire Prevention and Safety", and brochure, "Air Quality in Saskatchewan", and a booklet on "Fire Safety in Hospitals and Special-Care Homes" were developed during the year. Approximately 2,000 requests for information were received from the public during the year. A brochure entitled, "Sewage Effluent Irrigation", was published in co-operation with the Saskatchewan Water Corporation.

Staff from this Section also assisted in establishing information centres throughout the province to enable the public to view Environmental Impact Assessment documents on proposed new developments.

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